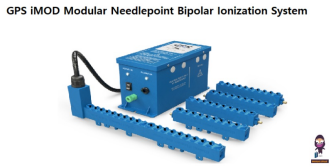

GPS iMOD Modular Needlepoint Bipolar Ionization System Instruction Manual

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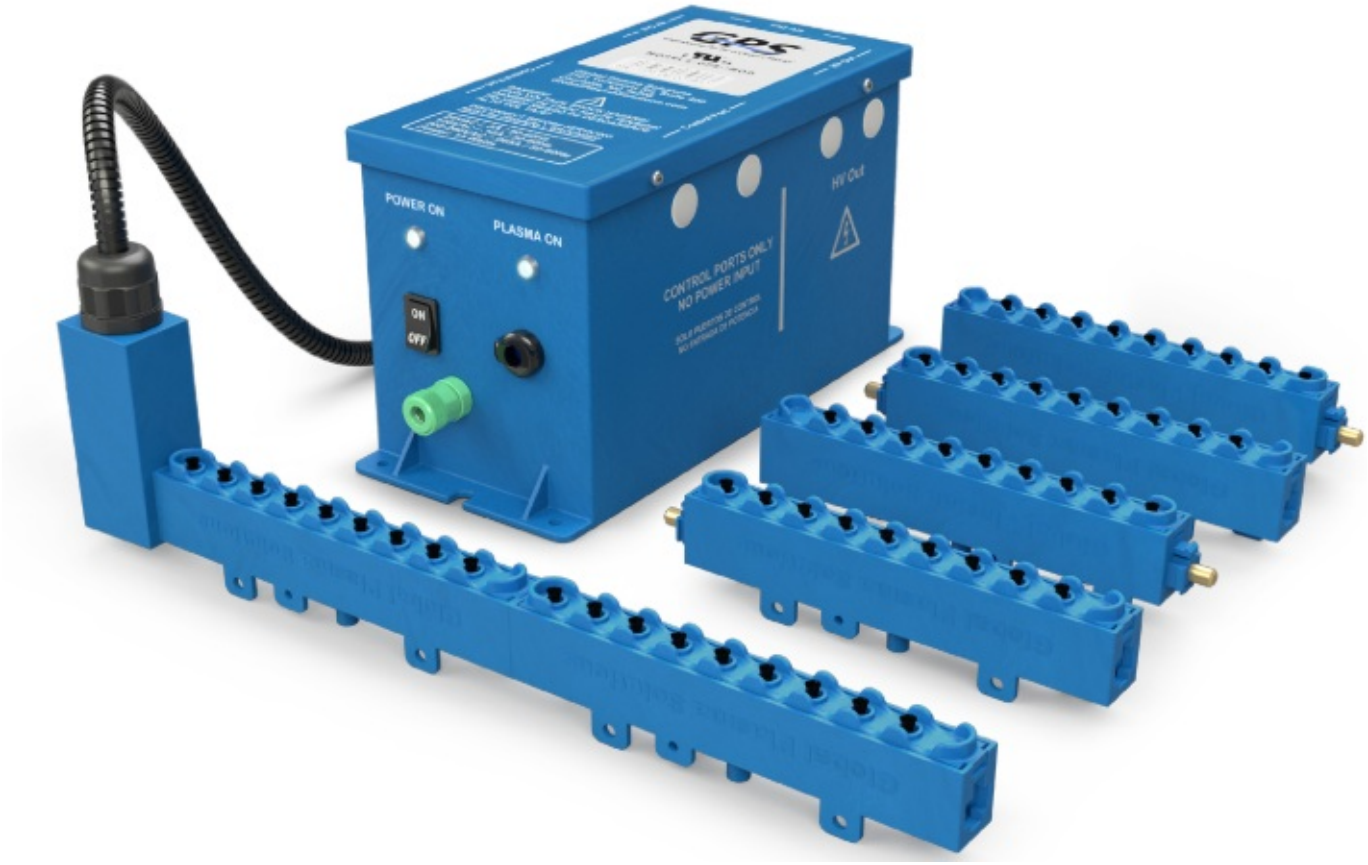
GPS-iMOD®

GPS iMOD Modular Needlepoint Bipolar Ionization System



Product Information

Specifications

- **15-watt power supply with multi-voltage input**: (24VAC/0.5A; 120VAC/0.12A; 208-240VAC/0.065A)
- **Flexible high voltage cables**: 3′, 6′, 10′, and/or 15′ with ring terminal connectors
- **Optional accessories**: Remote mounted ion sensor(s), NEMA 4x enclosure for power supply

Product Usage Instructions

Startup/Testing

Consult and complete the GPS Air GPS-iMOD startup checklist available on the website or through the provided QR code.

Personal Safety

Ensure to wear personal protective equipment (PPE) such as eye protection, non-skid safety shoes, a hard hat, and hearing protection before starting. Read and understand all safety warnings and instructions in the Installation Operation and Maintenance Manual.

Hardware Installation

Make sure all parts are included in the shipment. Components include the power supply, high-voltage cables, and optional accessories. Confirm the electrical wiring and necessary tools are available for installation.

Mechanical Installation

Ensure power is disconnected from HVAC equipment. Assemble the high-voltage cable and powerhead as per the provided instructions. Use caution during installation to prevent injuries or property damage.

FAQ

- **Q: Where can I find the GPS Air GPS-iMOD startup checklist?**
  - **A:** The startup checklist can be found on the GPS Air website or by scanning the provided QR code.
- **Q: What personal protective equipment (PPE) is recommended for product usage?**
  - **A:** It is recommended to wear eye protection, non-skid safety shoes, a hard hat, and hearing protection before using the product.
- **Q: What tools are required for installation?**
  - **A:** Tools required for installation include those listed in the manual, such as cord bushings, screws, and nuts.

NOTICE: This product is to be used only as directed. Read the entire manual before use. Do not use it unless properly installed.

For technical product queries, please reach out to **techsupport@gpsair.com**

Thank you for purchasing a GPS-iMOD® air ionization system from GPS Air.

Personal Safety

Personal protective equipment (PPE) such as eye protection, non-skid safety shoes, hard hat, hearing protection, or other PPE used for appropriate conditions will reduce personal injuries.

Before starting, read and understand all warnings and instructions outlined in the Installation Operation and Maintenance Manual (IOM). The IOM contains important safety information that applies to the procedures described below. Failure to follow these safety precautions could result in serious injury or property damage.

Hardware Provided by GPS

Before you start, confirm the contents of your shipment contain all the parts ordered. Photos of the included parts are shown on the next page for your reference. Each GPS-iMOD system will consist of the following components:

1. GPS-iMOD 15-watt power supply with multi-voltage input: (24VAC/0.5A; 120VAC/0.12A; 208-240VAC/0.065A).
2. GPS-iMOD 3’, 6’, 10’ and/or 15’ flexible high voltage cables with factory-attached ring terminal connectors. More than 1 high voltage cable may be provided based on the application and cooling coil dimensions. Please use the hyperlink or scan the QR code on page 3 of this document to access the GPS-iMOD Application Tips document for additional coil and high-voltage cable sizing guidance.
3. GPS-iMOD powerhead kit including iMOD powerhead blank with first 6” modular bar section factory attached, powerhead cap, and (6) screws.
4. GPS-iMOD 6-inch modular sections provided per quantities ordered to achieve overall ionization bar length.
5. End cap for each iMOD bar assembly. End cap inserts into the last modular section of the bar.
6. Mounting magnets per 18″ of bar length. Magnets are used for securing the GPS-iMOD to the cooling coil inlet

downstream of the filter rack. The magnet quantity provided will increase based on the overall bar length. Refer to iMod Mounting section for recommended magnet spacing.

7. Nylon screws and nuts for securing magnets to the front or back of the iMOD sections and metal screws for securing magnets to the top of the iMOD sections where the bar can be mounted to the ceiling of an air handler.
8. Stand-offs for elevating HV cable above the mounting surface.
9. Nylon cable ties for use with stand-offs.
10. Two (2) Cable grommets/cord bushings for each high-voltage cable.

Optional accessories may be included based on the items quoted or provided in the purchase order:

1. Remote-mounted ion sensor(s)
2. NEMA 4x enclosure for power supply

Hardware Required by Others

1. Self-tapping sheet metal screws for iMOD system components. The screws should be of adequate material, length and thread thickness to avoid corrosion. Care should be taken when selecting self-tapping screws to avoid penetrating the cooling coil and prevent damage to any other HVAC system components.
    - **A**. iMOD bar mounting: #8 size screws are to be used to fit through magnet (spacer) and support the iMOD bar to the Ground Reference mounting surface.
    - **B**. High voltage cable standoff mounting: #8 or #10 size screws.
2. Electrical wiring, junction box or receptacle to provide power to the GPS-iMOD power supply, optional door switch.
3. Additional grommets, as required, for any penetrations.
    - **A.** If additional cord bushings are required for proper high-voltage cable wall penetration installation, the contractor shall use Heyco 1287 universal cord bushing.

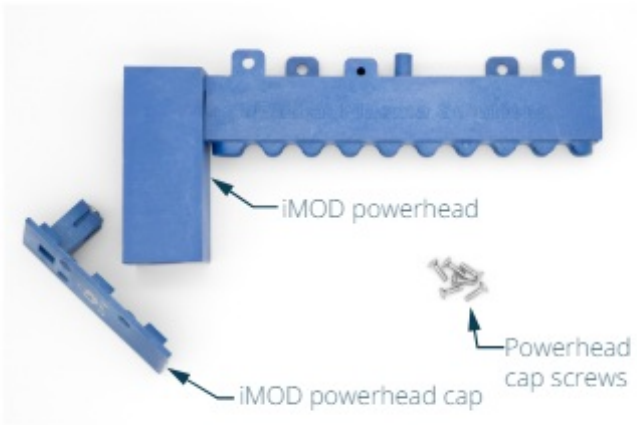
Tools Required for Installation

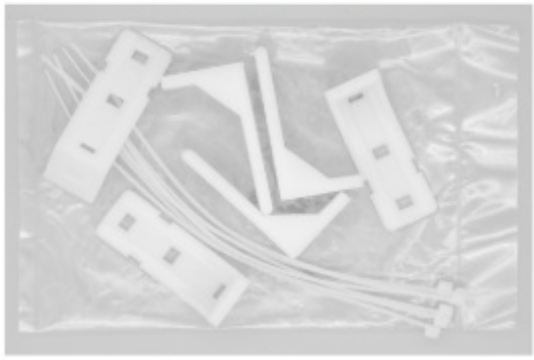
- Phillips head screwdriver (PH-2)
- Rubber mallet
- 7mm deep socket
- Power drill
- Step drill bit (if installing grommets at penetrations)

Parts Identification

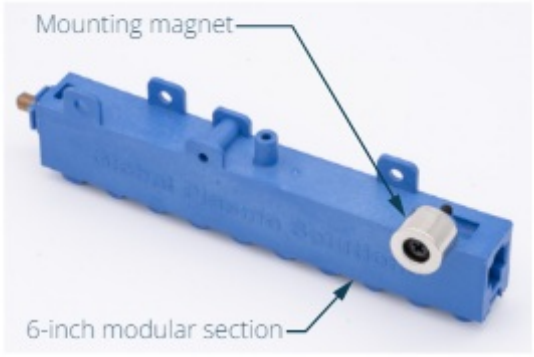
iMOD Power Supply

High voltage cable
(6 ft example shown)





High voltage cable standoffs and zip-ties
Note: Qty provided based on high voltage cable length



iMOD hardware pack

High voltage cable

Installation Location

The GPS-iMOD is designed to be installed on the air-entering side of the cooling coil, downstream of the filter. Do not install the GPS-iMOD downstream of the cooling coil, or in a wet location where condensation or droplets are likely to form on the bars/emitters. The GPS-iMOD bar(s) should be spaced a maximum of 60 inches apart vertically for appropriate ionization coverage on a single coil. iMOD bar shall cover the entire finned length of the coil to the nearest 6” without exceeding the length of the coil. (s**ee FIGURE 1**).

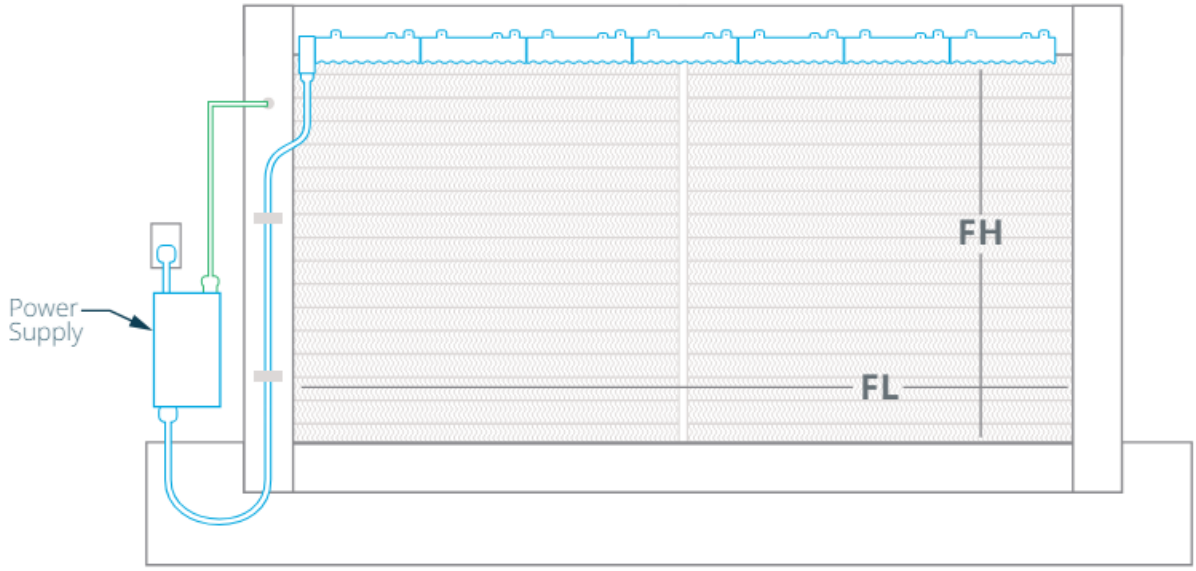


FIGURE 1

General Sizing Recommendations

Finned Length (FL) <144”
Finned Height (FH) <60”

For HVAC units with cooling coils FL>144” and FH>60” and other coil configurations/installation considerations, please refer to the iMOD Application Tips Document

iMOD Tips

- https://library.gpsair.com/uploads/customer-resources/Resource-Library/Application-Tips/GPS-056-14-iMOD.pdf

Mechanical Installation

CAUTION: CONFIRM POWER IS DISCONNECTED TO THE HVAC EQUIPMENT BEFORE INSTALLATION!

Step 1 – Assembly of iMOD High Voltage (HV) cable and iMOD powerhead

1. Locate iMOD HV cable.
2. Locate the ring terminal connector at the powerhead end of the HV cable (**see FIGURE 2A**).
3. Remove the retaining nut from the cable gland of the high-voltage cable (**see FIGURE 2B**) to be installed in the powerhead. Keep this nut, as it will be needed in the next step.

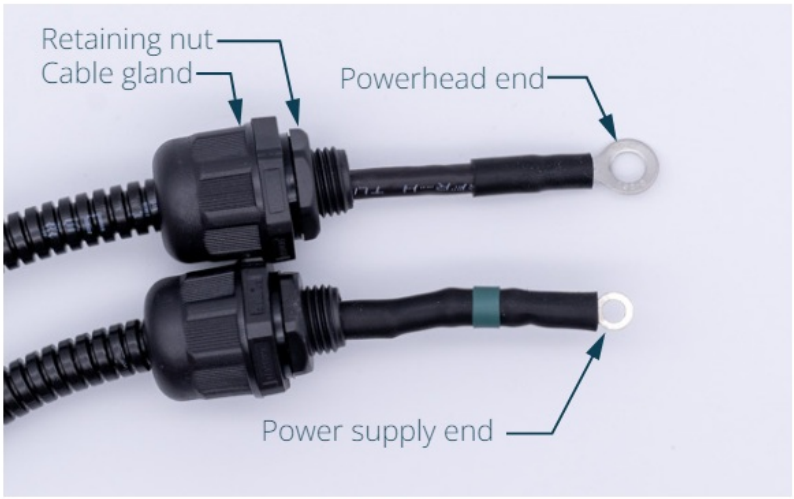


FIGURE 2A

FIGURE 2B

4. Feed the end of the high-voltage cable through the hole on the underside of the powerhead and reinstall the retaining nut on the cable gland (**see FIGURES 3A and 3B)**.
5. Position the ring terminal connector of the high-voltage cable on the post within the powerhead (**see FIGURE 3C**).

FIGURE 3A

FIGURE 3B

FIGURE 3C

FIGURE 3D

6. After confirming the ring terminal connector is properly positioned on the post within the powerhead, install the cap on the powerhead **(see FIGURE 3D)**.
7. Secure the cap onto the powerhead with the (3) Phillips head screws using a PH2 screwdriver (**see Figure 4A-4B**). DO NOT overtighten screws. DO NOT use a power drill/driver.

FIGURE 4A

FIGURE 4B

Step 2 – Determine which style of GPS-iMOD is being installed.

1. If using the snap-type iMOD, go to Step **2A** (**Refer to FIGURE 5A** for GPS-iMOD snap-type without threads).
2. If using the screw-type iMOD, go to Step **2B** (**Refer to FIGURE 5B** for GPS-iMOD screw-type with threaded post).

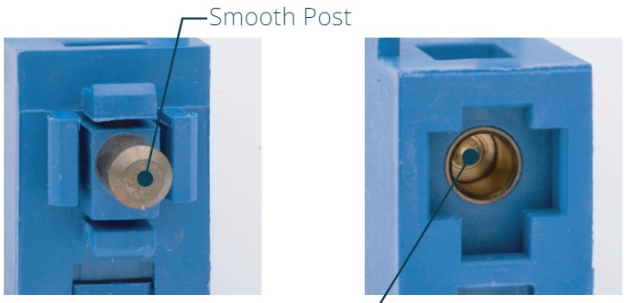


FIGURE 5A

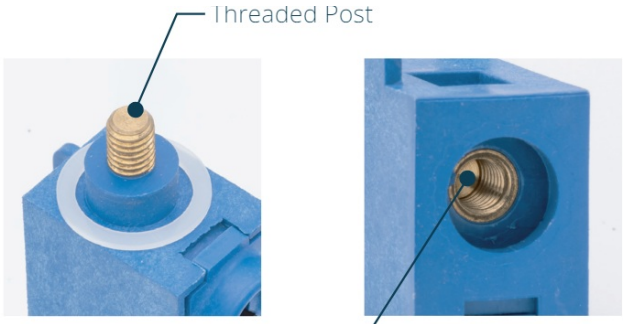


FIGURE 5B

Step 2A – Assembly of snap-type GPS-iMOD

Once the mounting location has been verified, assemble the modular sections by inserting the post-end of the iMOD into the receiver end of the first modular section already attached to the powerhead (see FIGURE 6B). Attach iMOD sections, making sure they are properly aligned as shown in FIGURE **7A**. Attach the iMOD sections by using a rubber mallet and carefully tapping with enough force to cause the modular sections to “snap” together **(see Figure 8A-8B**). Secure iPod firmly while tapping with mallet to avoid slipping

FIGURE 8A

FIGURE 8B

Do not hold iMOD between modules while assembling to avoid pinch hazards.

CAUTION: Once iMOD modules are snapped together, they cannot be disassembled. Doing so will cause irreparable non-visible damage and void warranty.

Continue assembling the modular sections until you reach the needed length for the coil. After assembling the first 8 iMOD sections, lay the assembly on the floor with the powerhead firmly butted against a rigid wall. See **FIGURES 9A-9B**. Continue to add iMOD sections until you reach the required length of the assembly. Proceed to STEP 3.

FIGURE 9A

FIGURE 9B

Step 2B – Assembly of screw-type GPS-iMOD Once the mounting location has been verified, assemble the modular sections by inserting the male threaded post into the female receiver of
the first modular section already attached to the powerhead (**see FIGURE 10**) and tighten until the modular housings are securely butted to each other.

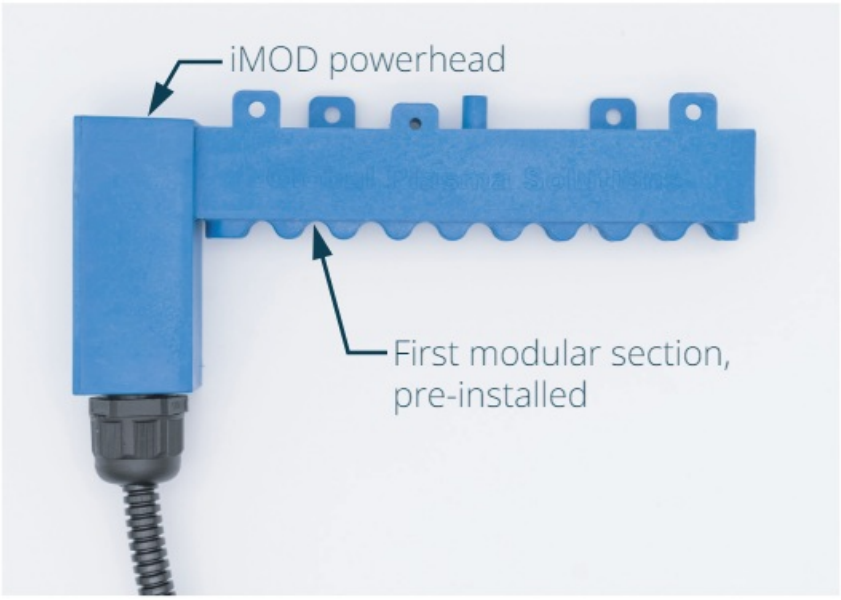


FIGURE 10

See FIGURE 11A (right) for correct assembly alignment. Please note, it should take 3-4 complete revolutions to assemble properly. Continue the process until all modules are assembled to the desired length of the bar. Not all the bars will screw together and line up with the brushes pointing in the same direction without using excessive force that could damage the module. Below are directions to assemble the bars to ensure alignment.

FIGURE 11A - Proper - no gap

iMOD ALIGNMENT

When the sections do not align properly after they have been securely adjusted, as shown in **Figure 12A-12B,** disassemble the section and place nylon spacer(s) provided by GPS between the two sections as shown in **FIGURE 13.** Use multiple if needed.

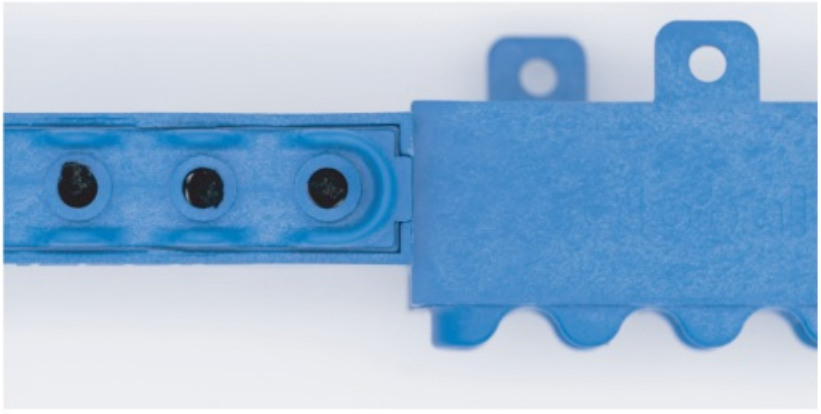


FIGURE 12A - Screw misaligned

FIGURE 12B - Screw misaligned

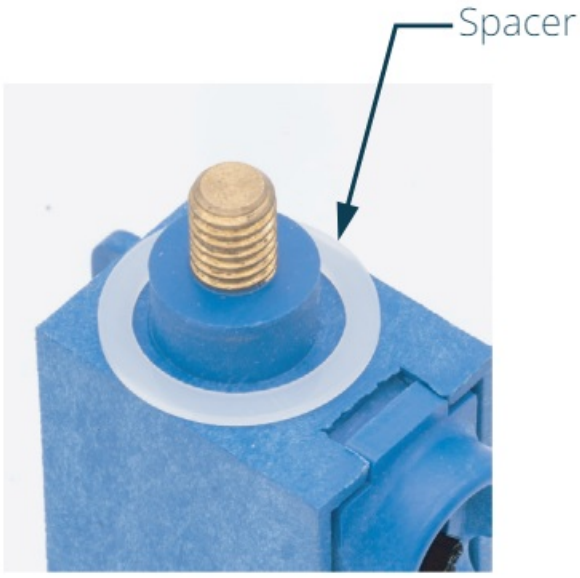


FIGURE 13

Once the spacer is placed over the male end of the device, twist the modules together until the parts are snug, and the carbon fiber brushes are pointing in the same direction, as shown in **FIGURE 11A or 11B.** Please note, that once the bars are assembled, there should be no “wobble” between the sections. Proceed to Step 3.

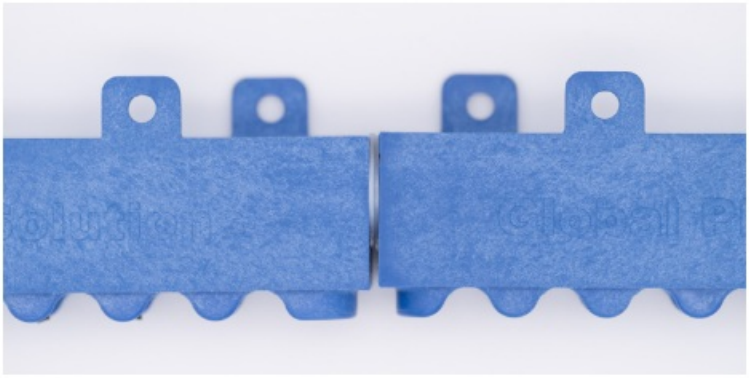


FIGURE 11B - Proper, small gap, filled by washer

FIGURE 11C - Improper, large gap

Step 3 – Once the last iMOD section is added, push the end cap into the receiver end of the last iMOD section. It will “snap” into place with proper pressure. Refer to **FIGURE 14A OR 14B** as appropriate.

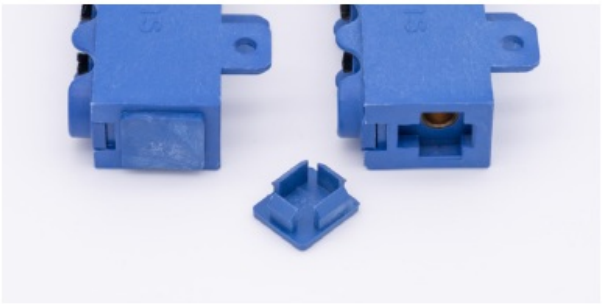


FIGURE 14A - Snap type

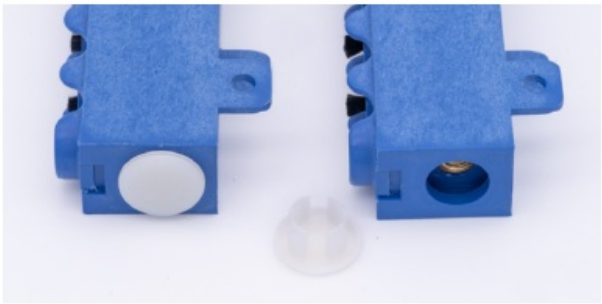


FIGURE 14B - Screw type

Step 4 – Verify all iMod sections are engaged and the end cap is installed prior to mounting in the air handler.
Step 5 – Ensure that the end cap does not touch a grounded AHU/RTU chassis wall. A minimum of 2” clearance from any metallic substrate is required. If necessary, remove one 6” module to shorten the overall length of the bar.

NOTE: If an excess snap section must be removed, the removed section must be discarded and a new end-cap must be placed onto the bar. Do not remove and reuse the end cap once it has been installed on the bar.

iMOD Mounting

The included magnets shall be used as a spacer even when installed on non-magnetic surfaces. Care should be taken when selecting a self-tapping screw length to avoid penetrating the cooling coil/tubing.

Step 1 – The assembled GPS-iMOD bar can be mounted on the air-entering side of the cooling coil using the included magnets and hardware, and/or they can be mounted using sheet metal screws (not provided) through the integral molded brackets.

Note: to preserve the proper bar spacing from the mounting surface, the magnets can be used as a spacer. Refer to **FIGURES 16A & 16B** below. There should be at least one magnet mounted on each end of the bar assembly and depending on length of bar, magnets should be mounted on every third section (roughly 18” spacing between magnets).

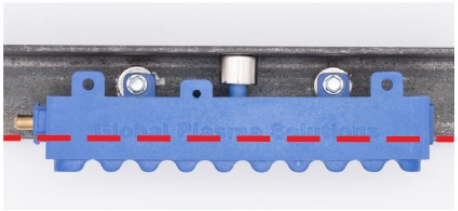


FIGURE 16A

FIGURE 16B

FIGURE 16C

Refer to **FIGURES 15A & 15B** for examples of top or side magnet mount installations. Screws and nuts are provided by GPS for mounting the magnets to the top or side of the bar.

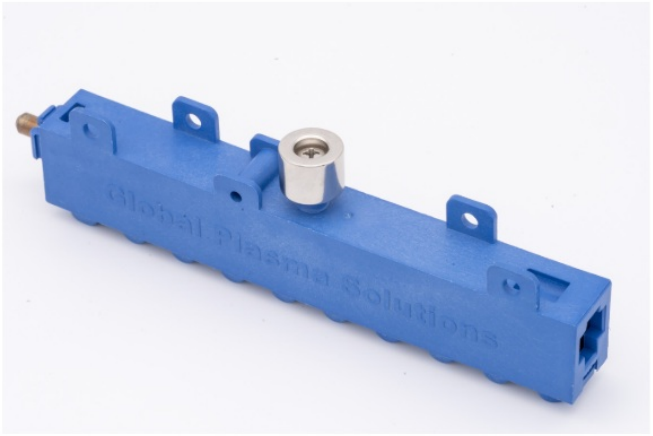


FIGURE 15A

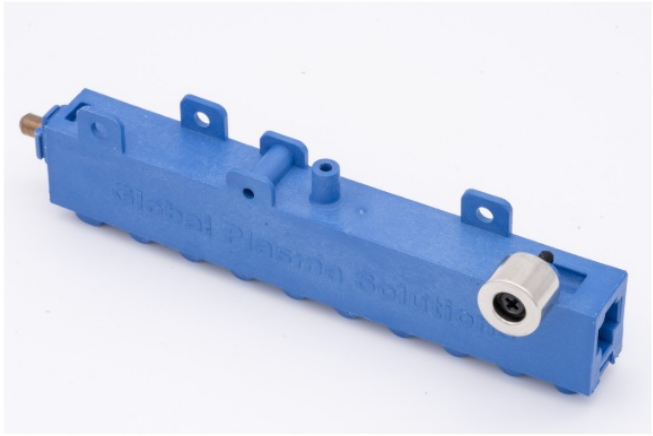


FIGURE 15B

Step 2 – When mounting to a 1.5” angle (1/8” thk), magnets should be mounted to the side mounting tabs every 18” and every 36” on top post for spacing purposes. This spacing recommendation applies to both magnetic and non-magnetic mounting angle.
Step 3 – When mounting the assembled GPS-iMOD bar, the bottom of the ‘Global Plasma Solutions’ text shall be level with top of the finned surface area of the coil or the lip of a mounting angle as shown by the dotted lines in **FIGURES 16A, 16B** and **16C** with the carbon fiber brushes pointing towards the floor of the air handler and perpendicular to the airflow. It is advisable that any bar over 6’ long is installed by two people to prevent risk of damage to an unsupported bar

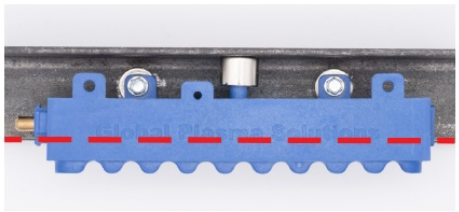


FIGURE 16A

FIGURE 16B

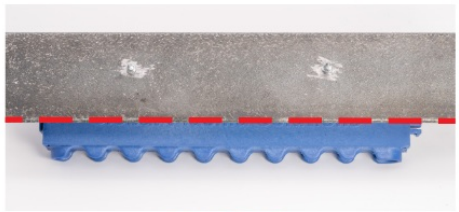


FIGURE 16C

NOTE: Do not fasten iMOD bar direct to mounting surface. The clearance between the mounting surface and the side wall of the bar shall be between 1/8" and 1/2". Using the provided magnets as indicated in **Figure 16** will provide the optimal 1/2" spacing. Failure to do so may result in low ion density and poor performance.

NOTE: Number of iMOD magnets shown in **FIGURE 16** is for illustrative purposes only. Refer to iMOD Mounting – Step 2 for proper magnet spacing.

Keep all carbon fiber brushes away from any metal (surfaces or pipes/tubes etc.). The ionization bar should always be mounted on the air-entering side of the cooling coil. The GPS-iMOD (SCREW TYPE ONLY) powerhead may be rotated to provide the best power cord routing based on the installation. When more than one bar is required per coil, the bars shall be mounted such that they each cover the same vertical distance (**refer to FIGURE 17).**

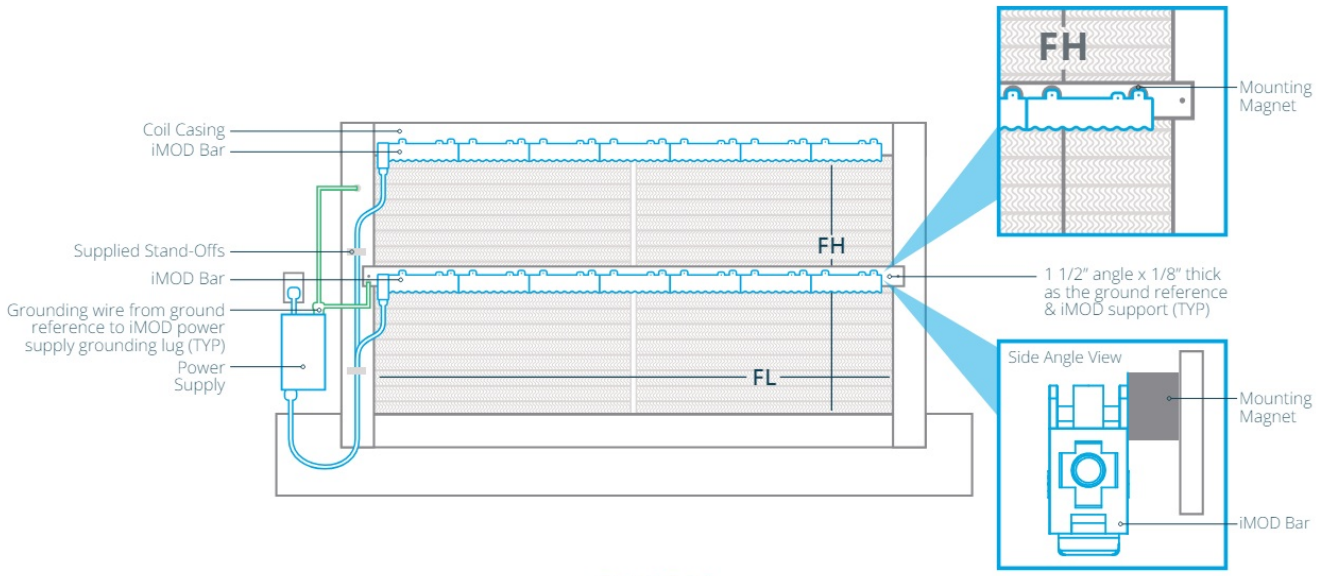


FIGURE 17

High Voltage cables shall not be cut or altered in any way. Doing so will void the electrical safety certification and product warranty.
Use grommets for any holes or protrusions.

High voltage cables should be routed so no bend is less than a 3" bend radius (6" diameter for 180° high voltage cable routing).

NOTE: If mounting multiple bars across the coil or when mounting to coil header has iMOD bar out of the direct path of the air stream, the installing contractor will need to provide a piece of 1.5" (1/8" thk) metal angle across the face of the coil to attach the GPS-iMOD bar

Must mount to coil where possible

Step 4 – Use a soft cloth with isopropyl alcohol and wipe any debris off the GPS-iMOD outer bar and spaces between the needle housing

Connection of GPS-iMOD bars to Power Supply and High Voltage Cable Routing

WARNING – The coiling or bundling of high voltage (HV) cables may cause added voltage drop and decreased ion output from the iMod. Installations, where the cable(s) are touching in multiple locations, will experience reduced output and lifespan.

Please follow the appropriate routing of high voltage (HV) cables as indicated below:

DO NOT CUT OR ALTER HIGH-VOLTAGE CABLES.

GPS offers high voltage cables in 3 ft, 6 ft, 10 ft, and 15 ft lengths. When possible, please select the shortest cable required to facilitate the installation. DO NOT coil, bunch, or loop the cable up so that it comes in contact with itself. To reduce slack in the cable, create long sweeping “S” shapes, like switchbacks in a road. High voltage cables should be routed with soft bends only such as creating long sweeping “S” shapes. The minimum bend radius is 3”. Secure the cable(s) so they will not interfere with or be damaged by equipment or personnel.

NOTE: When securing high voltage cable to a conductive surface, provided stand-offs shall be used every 18” to prevent high voltage cables from contacting the surface. Additional standoffs may be required to prevent high voltage cable from contacting piping, tubing, conduit, wiring, or any other grounded conductive surface. Do not over-tighten nylon cable tie around high voltage cable jacketing

NOTE: DO NOT run high voltage cables along with any other wiring.

FIGURE 20A and 20B above illustrate proper standoff installation. **FIGURE 20B** represents multiple HV cables powered by the same power supply secured a single standoff. **FIGURE 20B** does not represent a single cable coiled on itself. The coiling of HV cables is not acceptable.

Please note: Securing a HV cable to the middle opening/position **(FIGURE 20C**) on a 2” stand-off is not acceptable. This mounting position does not achieve the minimum clearance requirement of 1.5”.

FIGURE 20A

FIGURE 20B

FIGURE 20C

HV Cable Wall Penetration Grommet Installation Instructions

All high voltage cable wall penetrations must be grommeted. GPS recommends using the supplied cord bushings.

1. Drill a hole of a size appropriate for the bushing (**FIGURE 21A**).

2. Place the bushing on the HV cable and fit securely in the wall (**Figures 21B and 22A**).
3. Use a sealant on the gland/cable interface to prevent air leakage (**FIGURE 22B and 22C)**

FIGURE 21A

FIGURE 21B

FIGURE 22A

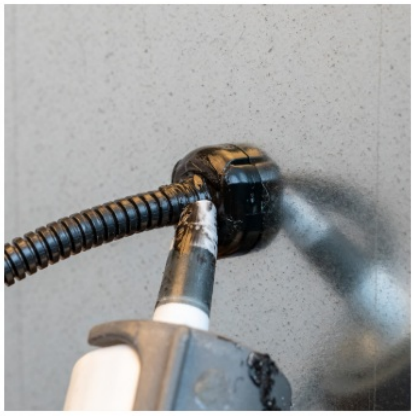


FIGURE 22B

FIGURE 22C

Power Supply Installation and Wiring

WARNING – DO NOT CONNECT POWER UNTIL VOLTAGE SELECTOR SWITCH INSIDE HOUSING IS CONFIRMED TO BE IN THE CORRECT POSITION MATCHING THE PRIMARY POWER BEING APPLIED (**See FIGURE 23)**. APPLYING POWER WITH THE SELECTOR SWITCH IN THE INCORRECT POSITION WILL LIKELY DAMAGE EQUIPMENT AND WILL VOID THE WARRANTY. Follow all applicable local and national electrical and building codes.
The GPS-iMOD system requires a total of 15 watts to power up to 4 GPS-iMOD bars, regardless of length. The power supply will only accept 24VAC, 110VAC or 208-240VAC at 50HZ or 60HZ.

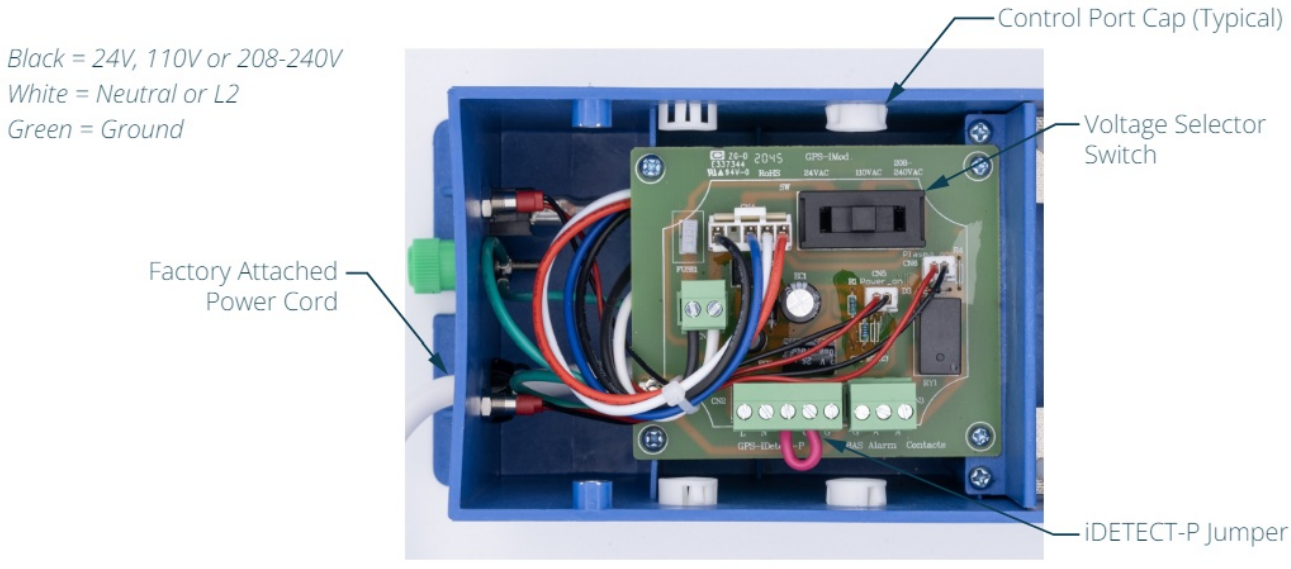


FIGURE 23

NOTE: The power supply has an internal voltage selector switch set to 110VAC from the factory, as shown in FIGURE 15. If 24VAC or 208-240VAC is required, move the selector switch to the proper position as shown on the circuit board or inside cover of the power supply lid. DO NOT APPLY POWER until the switch position matches the power supplied. Based on voltage input or local codes, the 3-prong plug may be cut off on the outside of the power supply enclosure and the three wires are as follows:

THE FACTORY ATTACHED POWER CORD MUST BE RETAINED WHERE IT ENTERS THE iMOD POWER SUPPLY HOUSING. REMOVING THIS POWER CORD WILL VOID THE WARRANTY.

NOTE: The power supply must be grounded for all input voltages. If connecting to 24VAC power, the green grounding wire or green grounding lug on the power supply housing must be connected to the electrical earth ground. A grounded common will not suffice as adequate power supply grounding.

- **Step 1** – The power supply may be mounted to the internal or external wall of the air handler. If the power supply will be exposed to wash-down or outdoor elements, it must be enclosed in the Nema 4x enclosure (purchased separately).
- **Step 2** – The mounting location selected shall be such that there is a minimum amount of excess HV cable from the iMOD bars, or that excess can be routed as instructed previously in this manual.
- **Step 3** – Remove the 4 screws securing the lid of the power supply.
- **Step 4** – Mount the power supply to the wall using sheet metal screws through the mounting tabs on the power supply.

Step 5 – The high voltage (HV) compartment has 6 HV ports. Refer to **FIGURE 24.** Based on the jobsite-specific wiring route, access to the right, left or top side may be desired. Up to 4 bars may be connected to a single power supply. Remove the plug from the port desired and fill the port not used with the spare plug.
DO NOT RUN HIGH-VOLTAGE CABLES THROUGH THE CONTROL PORTS. DO NOT RUN CONTROL WIRING THROUGH HIGH VOLTAGE (HV) PORTS! **REFER TO FIGURES 23-24.**

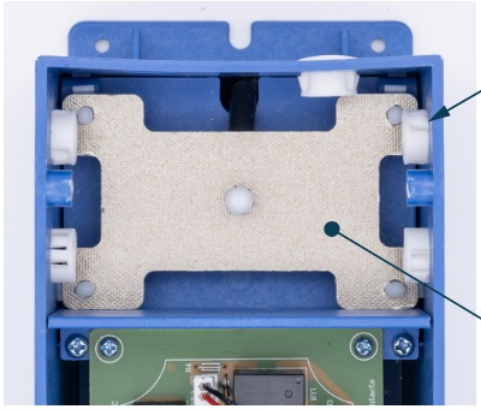


FIGURE 24

Step 6 - Remove the plastic cap and top nut from the HV post (FIGURE 25). DO NOT REMOVE THE BOTTOM NUT!

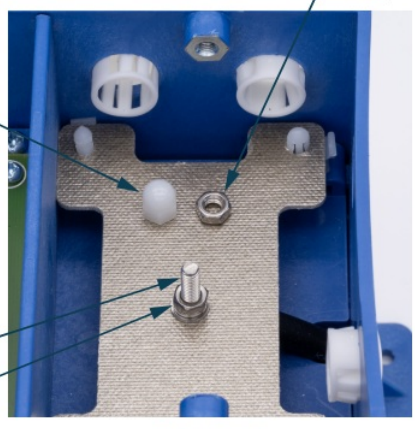


FIGURE 25

Step 6 – Remove the plastic cap and top nut from the HV post (**FIGURE 25**). DO NOT REMOVE THE BOTTOM NUT!

Step 7 – Remove the plastic nut (**FIGURE 26A**) from the strain relief at the end of the high-voltage cable. Next, push the HV wire through the desired port and place the plastic nut back over the strain relief, tightening to secure the HV cable assembly in place. Place the electrical eye connector over the HV post and tighten down the top nut and plastic cap to secure **(FIGURE 26B and 26C).** If there are multiple bars connected, place all electrical eye connectors under the top nut prior to tightening. Once all connections are made, replace lid or proceed to connect the control wiring

FIGURE 26A

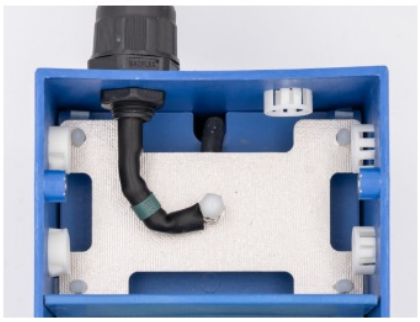


FIGURE 26B

FIGURE 26C

Step 8 – All unused ports must be capped.

Connection to Building Management System/Building Automation System The GPS-iMOD has an internal ionization output sensing circuit. The external GPS-iDETECT-P is not required but may be installed as an option. Integral alarm “dry” contacts will close when the system is on and operating properly. To tie into the BMS/BAS for remote monitoring, use an 18/2 twisted pair, SHIELDED, plenum-rated cable and connect to the BMS/BAS ALARM contact terminals. Connect the cable shield to the ground terminal as shown in **FIGURE 27.** The terminal block may be removed for ease of wiring

Control wires and high voltage (HC) cables shall be kept separate from each other at ALL times. DO NOT RUN BOTH CABLES TOGETHER AND DO NOT ZIP TIE CONTROL WIRING TO FLEXIBLE HV CABLES OR iMOD BAR!

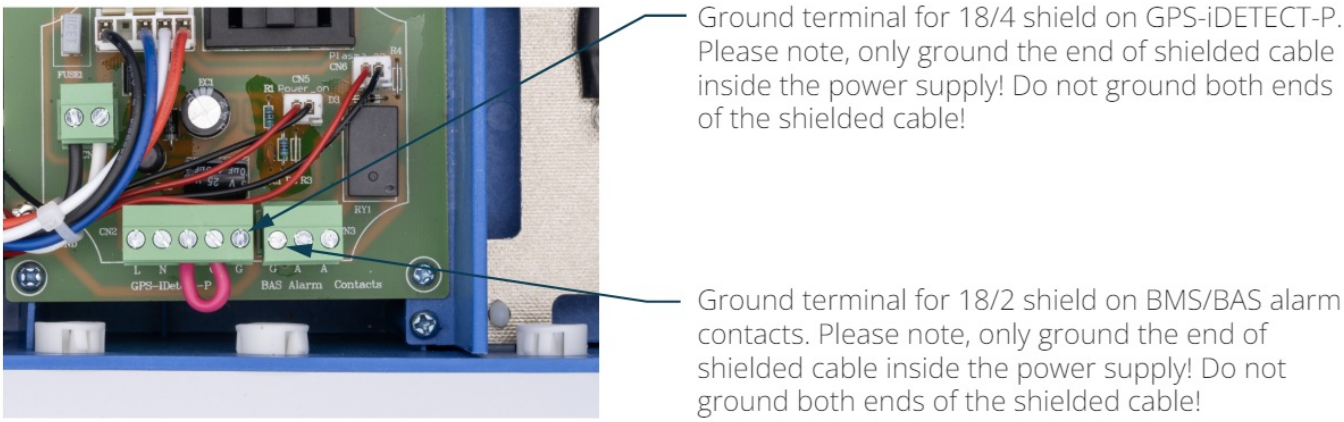


FIGURE 27

- **Step 1** – Remove the red jumper wire between C (closed) and ON (open normally) on the GPS-iDETECT-P terminal block (see FIGURE 23 for jumper wire).
- **Step 2** – Using 300V, 18/4, plenum rated, SHIELDED cable wire between the GPS-iDETECT-P power and normally open terminals and the GPS-iMOD power supply GPS-iDETECT-P terminal block as shown in **FIGURE 27. (**NOTE: The voltage supplied to the iDETECT-P is line voltage. Installation shall be in compliance with all applicable building codes.) Ground the 18/4 SHIELD to the ground terminal on the GPS-iDETECT-P terminal strip shown in **FIGURE 27.**
- Only ground ONE end of the shielded cable.

- Do not ground the end connected to the GPS-iDETECT-P sensor.
- DO NOT RUN WIRING WITH HV CABLES!
- DO NOT RUN WIRING ALONG iMOD IONIZATION BAR!

Step 3 – Mount the GPS-iDETECT-P using the included 1” coated pipe clamp and secure to a GPS-iMOD section as shown in **FIGURE 28** using a nut and bolt.

FIGURE 28

https://library.gpsair.com/uploads/customer-resources/Resource-Library/Manuals/GPS-041-19-iDP-IOM.pdf

Step 4 – When the GPS-iDETECT-P senses output, the “Plasma On” light will illuminate on the front panel of the power supply and the BAS/BMS Alarm Contacts will close. When using the GPS-iDETECT-P in conjunction with the GPS-iMOD power supply, always connect to the BMS/BAS using the BMS/BAS Alarm Contacts, not the contacts on the

GPSiDETECT-P.

Operation

Complete Step 1 through Step 3 PRIOR to initial power-up.

- **Step 1** – Confirm the voltage selector switch matches the incoming power source.
- **Step 2** – Confirm the power supply is grounded.
- **Step 3** – Confirm all HV wire(s) are connected and the iMOD power supply and iMOD bar(s) are securely mounted.
- **Step 4** – Turn the rocker power switch to the “ON” position. When the switch is turned “ON” the “Power ON” light will illuminate, letting the user know power is supplied and the GPS-iMOD system is energized. When power is supplied and the internal or optional remote-mounted GPS-iDETECT-P is sensing output, the “Plasma On” light will also illuminate.
- **Note**: If a door switch, fan interlock switch or air flow switch are in series with the power, the system may not turn on until all safeties are closed.
- **Step 5** – The internal BAS Alarm Contacts will close proving system operation to the BMS.
- **Step 6** – Using a standard non-contact voltage meter, place it near the ion needles and prove there is ion output. An optional ion meter can be purchased from GPS and actual ion output values can be measured. A permanent mount ion detector with BAS interface may be provided as an option for 24/7 output monitoring

Maintenance

The GPS-iMOD system has been designed for minimum maintenance. Below are steps to help ensure optimal performance and long life:

- On a QUARTERLY basis, or as often as the filters are changed:

A. Turn off the power to the GPS-iMOD.
B. Swipe the brushes along the iMOD bar with a dry rag/microfiber towel to help dislodge and disperse any particles accumulated on the emitters.
C. Re-energize the iMOD system.

On an ANNUAL basis:

A. Turn off the power to the GPS-iMOD.
B. Using isopropyl alcohol and a nylon (wire free) brush, gently clean the iMOD emitter needles.
C. With the iMOD still powered off, wipe any debris off the body of the iMOD bar including the spaces between the needle housings using a soft cloth with isopropyl alcohol (GPS recommends 70% isopropyl alcohol).
D. Make sure to allow any residual alcohol to evaporate prior to re-energizing the iMOD system. Note: in high contaminant load environments, the iMOD may require more frequent cleaning. HVAC Equipment Servicing Notes Prior to servicing/cleaning the cooling coil, or any other internal components of the AHU near where the iMOD is mounted, perform the following steps to prevent damage to the GPS-iMOD system.

1. Power the iMOD off.
2. Protect the iMOD from direct contact with water/chemicals and overspray by covering all components (iMOD power supply, high voltage cable, iMOD bar) with a waterproof material. If the iMOD bar is magnet mounted, you may choose to remove the bars from the system prior to cleaning with water/chemicals.
3. After cleaning is complete and the covering is removed, allow the iMOD to air dry. Confirm all components of the system are dry prior to re-energizing the iMOD power supply.
    - **NOTE**: The iMOD is not designed nor rated for wash-down duty. Avoid direct contact with water and harsh cleaning chemicals, as these may cause irreparable damage to the components of the iMOD system. Damage caused by water intrusion or chemicals from the cleaning process will not be covered under warranty.

Troubleshooting Guide

SYMPTOM	POSSIBLE CAUSE	REMEDY
"POWER ON" indicator light not illuminated	Rocker switch in "OFF" position	Move rocker switch to "ON" position
	Absence of input power	Confirm presence of incoming power
	Inadequate input power	Confirm voltage of incoming power source
	Wiring issue	Confirm all wiring connections are secure and inspect all wires for damage
	External safety switches preventing operation	Check that any third party safety switches are closed and there is primary power applied to the power supply
	Either a voltage surge or high temperature/load condition can trip the iMOD's internal auto-reset circuit breaker	Remove power to the iMOD and energize after five minutes to reset the GPS-iMOD internal circuit breaker
"POWER ON" indicator light illuminated, "PLASMA ON" indicator light not illuminated	Improper wiring	If optional iDETECT-P is NOT installed, confirm presence of factory installed jumper wire between "C" (Closed) and "ON" (Open Normally) on iDETECT-P terminals on iMOD power supply control board
	Improper iDETECT-P installation	If optional iDETECT-P is installed, confirm iDETECT-P is wired properly and installed at the iMOD bar
	Inadequate output voltage	If optional iDETECT-P is installed properly, confirm high voltage output at emitters of iMOD bar >4,000 V using a high voltage probe and digital voltmeter
No Ionization output	Power supply is off	Confirm the power supply is operating properly per the steps above
	HV Cables not installed properly	Confirm the HV cables are inserted and secured properly
	Emitters dirty/fouled	Confirm the needles are clean and free of debris
	Voltage selector switch position does not match input voltage	Confirm the voltage selector switch is set to the correct voltage input. ***NOTE:*** *APPLYING POWER WITH SELECTOR SWITCH IN INCORRECT POSITION WILL LIKELY DAMAGE EQUIPMENT AND WILL VOID WARRANTY.*
	Low/no voltage output	Confirm high voltage output at emitters of iMOD bar >4,000 V using a high voltage probe and digital voltmeter
"POWER ON" indicator light not illuminated, "PLASMA ON" indicator light illuminated	Power supply may be damaged	Contact your local GPS sales representative

1. Ensure that the GPS-iMOD start-up document was completed properly.

If the above troubleshooting guide does not restore the iMOD system to it's proper functionality, please contact GPS Tech

Support for further assistance:

- **Phone**: (980)279-5622
- Select Option 1 for Customer Care
- Select Option 2 for Technical Support
- **Email:** techsupport@gpsair.com

Product Registration

REGISTER

By registering your order, the standard limited warranty on eligible products from your purchase is automatically extended to 3 years, at no additional cost.

Register your products at **www.gpsair.com/product-registration** or scan the QR code

GPS-iMOD IOM

The information provided in this manual is up to date at the time of printing. Any revisions to this document will supersede the content included. For the latest applicable version of this manual, visit our website or utilize the QR code.

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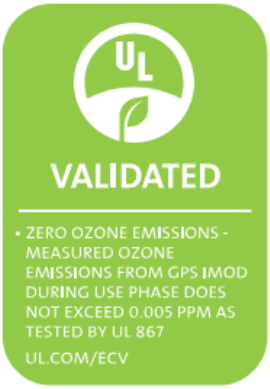

To access a list of applicable patents, please visit www.gpspatents.com

- gpsair.com

Documents / Resources

	GPS iMOD Modular Needlepoint Bipolar Ionization System [pdf] Instruction Manual iMOD, iMOD Modular Needlepoint Bipolar Ionization System, Modular Needlepoint Bipolar Ionization System, Needlepoint Bipolar Ionization System, Bipolar Ionization System, Ionization System, System

References

- GPS Air | Optimize Your Indoor Air Quality | GPS Air IAQ Solutions
- GPS Air | Product Registration
- GPS Air | trademarks
- Patents | Global Plasma Solutions
- User Manual