

Installation, Operation & Maintenance Manual

GPS-IMEASURE



www.globalplasmasolutions.com

Thank your choosing the GPS-iMeasure™. The GPS-iMEASURE is the first commercially available ion detector that can be permanently mounted in the space to measure ion levels in real time and report back to a BMS.

Hardware Required by Installer

- Mounting screws
- Electrical connectors

Installation Location

GPS recommends the GPS-iMEASURE be installed in the breathing zone of the space to be monitored.

Mechanical Installation

1. Select a location for installation. Find an area that will minimize, dust, dirt, and water contamination.
2. Remove the four screws that secure GPS-iMEASURE to the subbase.
3. Insert wires through hole on back. Secure it to the wall with field supplied screws.

Electrical Installation

CAUTION: MAKE SURE POWER IS DISCONNECTED FROM HVAC EQUIPMENT BEFORE INSTALLATION

- Verify voltage of the circuit the GPS-iMEASURE will be connected: INPUT VOLTAGE RANGE 12- 24VDC
- Wire the GPS-iMEASURE per the following (see FIGURE 1):
 - Pin 1= 12 to 24VDC Supply (+)
 - Pin 2= 12 to 24VDC Supply (-)
 - Pin 3 = Earth Ground
 - Pin 4= Output Common (-) The output reference must be isolated, and it cannot be at earth ground or at the (-) supply rail connected from pin 2
 - Pin 5= analog Output to BMS 0VDC to +10VDC

Scale Selection

The scale on which the ions are read can be adjusted. To adjust the range (sensitivity) to the ion level, move the white jumper on the control board (see FIGURE 2).

1. No Jumper = 10K ions
2. Jumper on center and 100K pin = 100,000 ions
3. Jumper on center and 1M pin = 1,000,000 ions

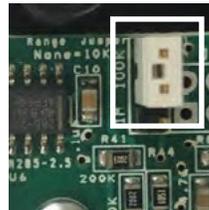


Figure 2

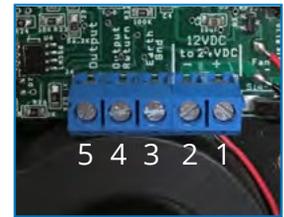


Figure 1

Initial Power Up

Once 12VDC to 24VDC is applied, the GPS-iMEASURE will go through a 60 second calibration cycle. During this time, the LED on the side wall will flash green and the output will go to 0VDC. The LED will be solid green when power is applied and there are no faults. Upon a fault the LED will turn red.



Auto Zero Sequence

During this sequence, the fan will turn off and the internal chamber voltage will be held at a reference voltage for 30 seconds. The fan and chamber voltage will then activate after the 30 second delay. After the 30 second stabilization period, the auto zero cycle ends, and the ion measuring starts.

Maintenance

Accumulation of lint and dust, spider webs or web fragments within the ion chamber can cause inaccurate readings, the inability to auto zero or the ability to maintain a proper chamber voltage. This can usually be corrected by cleaning the chamber with canned compressed air. It is advisable to periodically blow out the chamber with compressed air. The frequency of this preventative procedure will depend on the environment in which it is used. Cleaning the unit/ chamber once a year should be sufficient in non-industrial environments.



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