



ION MD48

Features

- Universal voltage input from 24Vac to 260Vac
- Integrated display
- Programmable cleaning cycle
- Integrated alarm contacts
- 3/4 quick turn adapter
- 6 ft (180 cm) watertight flexible conduit

Technical Data

Input Voltage	24Vac/240Vac
Power (VA)	12VA
Frequency	50/60 Hz
Fuse	Internal auto-reset circuit breaker
Air Flow Capacity	8,000 m ³ /h
Unit Dimensions	4 x 7 x 7 inches W x H x L 102 x 178 x 178 mm
Unit Weight	5 lbs (2.3 kg)
Temperature	-20° to 140° F (-29° - 60° C)
Electronic Approvals	UL, cUL F

Description

The ION MD48 is the world's first self-cleaning, no maintenance, needlepoint bipolar ionization generator.

The unit has been designed for indoor or outdoor duct mounting or it may be mounted inside an air handler based on the application requirements.

Benefits

- Controls Odors
- Kills Mold, Bacteria and Virus
- Can Be Used to Reduce Outside Air Per ASHRAE 62.1 IAQP
- Controls Static Electricity
- Reduces Smoke and No Maintenance

Design Features

The patent-pending ION MD48 is a carbon fiber needlepoint, bi-polar ionization generator rated 4,800 CFM nominal capacity.

It is designed for duct mounting or AHU mounting.

The weatherproof housing is made of composite material and includes an integral display, self-cleaning test button, pre-programmed cleaning cycle (cleaning intervals are field selectable through software) and integral alarm contacts.

The unit offers the first no-maintenance, no replacement part solution for IAQ.

Application

Commercial and Industrial Buildings

Ordering Code

ION MD48 Air Cleaning Unit - Duct



Front View



SideView



Mounting Flange
View - Bottom

Installation

The ION MD48 is designed for metal duct mounting applications.

The preferred mounting location is after a prefilter and before the cooling coil. Alternate mounting locations are on the supply air duct or the return air duct after the system filter.

The weatherproof housing will allow mounting indoors or out.

Step 1. Power off the HVAC system the unit will be added.

Step 2. After finding the appropriate location, cut or drill a 4 inch (100mm) round hole. Insert the unit into the 4 inch (100mm) round hole and secure with four self tapping screws or wing nuts provided.

CAUTION/WARNING:

1. This product shall not be installed behind a suspended floor/ceiling or a structural wall, ceiling or floor.
2. This product is designed for mounting to duct of metallic construction only. Installation must be such that the structural integrity of the ducting is not compromised.
3. Warning: Risk of Electric Shock. Disconnect All Remote Electric Power Supplies Before Servicing
4. Caution: High Voltage Shock Hazard. Never Touch Brushes While Operating.

Wiring

Confirm power is off prior to wiring.

Follow all local and national electric, mechanical and building codes when in-stalling and wiring.

The ION MD48 can be powered with a 24Vac low voltage circuit or 110Vac to 240Vac high voltage circuit.

The face panel of the unit is labeled showing which terminals are 24Vac, 110-240Vac input and neutral and come prewired from the factory.

Opening the unit is not necessary for installation.

The unit is provided with 6 feet (180 cm) of liquid-tight flex conduit to reach a junction box for wiring.

The wires are color coded as follows:

Black = 110-240Vac input

White = Neutral

Grey = 24Vac input

Green/Brown = Alarm Dry Contact

The unit is provided with alarm contacts for use with a building management system. When the unit is powered and there are no faults, the alarm "dry" contacts will be closed, providing continuity.

The contacts are rated up to 250Vac at 1A.



Operation

Once powered, the unit initiates an internal check of all systems.

After initializing, the display will blink between “On”, “GPS” and the number of days the unit has been powered. If there is a fault, the unit display will show “FAULT”.

Cleaning Cycle — The ION MD48 comes with a preset cleaning cycle designed to clean the brushes every 5 days.

At any time, the cleaning cycle test button on the front panel may be pushed and the unit will initiate a cleaning cycle.

While the cleaning cycle is engaged, the display will change to “CLEAN”.

To change the cycle frequency, hold the cleaning cycle button in for 5 seconds once the display shows “CLEAN” and then press it until you see the number of days you want it to wait between cycles, 1, 5, 10 and 20.

Most applications will never require field reprogramming.

Maintenance

The ION MD48 is designed to be maintenance free, thanks to the patent-pending self-cleaning system.

Over time and hundreds of self clean-ing cycles, the carbon fiber brushes may wear down due to mechanical friction and require replacement.

With the unit powered off, remove the four screws holding the clear cover, remove the one machine screw at the 5 O’clock position and pull out the green five position pluggable terminal block.

Twist the unit counter-clockwise 3/4 turn to remove from duct.

Remove the two Phillips screws holding the brushes down. Pull the brushes out of the electrical connector and insert the new brushes.

Replace the Phillips screws, and attach to duct using the same steps above in reverse.

Troubleshooting

Problem	Solution
Unit won’t power up	Confirm proper voltage is applied and to the correct terminal
Display shows “FAULT”	Remove power, wait 1 minute and reapply power. If “FAULT” still appears, try using alternate power source, i.e. low voltage input versus high voltage input or vice versa. If FAULT still shows, call factory.
No Display / LED	If the correct voltage source has been confirmed and the unit does not power up contact your installing contractor or AP for servicing.