Purify Thermostat I/O/M manual

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PN IOM-0019

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Purify Thermostat Overview

Designed to provide the correct amount of ionization to actively clean the air in a home or business environment and provide feedback at the thermostat if your ionization system is working. Purify will alarm and let you know when the ionization is not working in your HVAC system. The unit will alarm to let you know when the ionization has stopped working, allowing you to make sure this issue is corrected so that you will have the comfort of knowing that the air in the space you live or work is always being cleaned

Purify comes with ionization modules, sensing devices to ensure the ionization is working and either a Wi-Fi or BACnet enable thermostat. You can purchase the Purify stat with a variety of different quantities of ion blocks with the system. As with the standard ionization product, please make sure you inform us if this device is used in a smoking or kitchen environment so that the amount of ionization can be properly sized. If you are in a standard indoor air environment (no smoking or not a kitchen where there is fried foods), you would size each ionization block to do 2,000 CFM/block. If you are in a smoking or a kitchen environment, each ionization block will only do 1,000 CFM/block. This would mean for a normal residential house (5-ton system or less) Purify with a single ionization device will work.

Purify Thermostat Package

Package Description

The iAIRE Purify Thermostat package is designed to clean air of all types of airborne contaminants such as bacteria, mold and viruses. The system has few parts and simple mounting requirements that provide the owner with a feedback loop on if the ionization is working on cleaning the air in the space at the thermostat. The system contains the correct ionization for standard air (non-smoking or kitchen) environments in a single package to help ensure the air in your space is as clean as you can make it. It also provides the comfort of a feedback loop to let you know this process is always working, keeping your air clean.

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Part Number

ION - THM - ** - V 1. * - *

Type
ION - IONIZATION

Thermostat
THM - THERMOSTAT

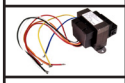
# of Ions
Min - 01
Max - 16

Version
V - VERSION
1 - ONE
* - REVISION

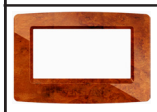
Options
A - REMOTE SENSOR
B - BACNET
C - FACEPLATE - SILVER
D - FACEPLATE - BLACK
F - FACEPLATE - BURL WOOD

Note: standard face plate is white

Package Matrix

	Part #	Quantities					
	Ionization air cleaner mod. # ION-0A*00	1	2	3	4	5	6
	Mounting Plate mod. # UNV0016	1	2	3	4	5	6
	Current Sensor mod. # SEN-0017	1	1	1	1	1	1
	Digital Purify Thermostat	1	1	1	1	1	1
	Transformer mod. # TRN-0005	0	0	0	0	1	1
Terminal Strip		1	1	1	1	1	1
Electrical Data	24v	0.38A	0.56A	0.74A	0.92A	N/A	N/A
	230v	N/A	N/A	N/A	N/A	0.31A	0.33A
	460v	N/A	N/A	N/A	N/A	0.16A	0.17A
CFM	Standard Conditions	2,000	4,000	6,000	8,000	10,000	12,000
	Smoking Conditions	1,000	2,000	3,000	4,000	5,000	6,000
	Total Weight	1.6 lbs	1.9 lbs	2.2 lbs	2.5 lbs	6.35 lbs	6.65 lbs

Purify Thermostat Package Options

Part Name		Option #
	Remote Sensor	A
	BACnet Thermostat	B
	BACnet Remote Sensor	A&B
	Faceplate - White (std)	N/A
	Faceplate - Silver	C
	Faceplate - Black	D
	Faceplate - Burl Wood	F

Product Application

Residential Houses | Hospitals | Nursing Homes
Schools | Animal Feeding and Processing Plants
Shopping Malls | Laboratories | Veterinary Office
Restaurants and Food Preparation Areas | Zoos
Casinos | Convention Centers and Arenas | Jails
Museums | Health Clubs | Churches and Synago

Technical Data

Power Consumption	4.3 W / per ion device
Output Voltage	+/- 9000VDC
Power Wiring Leads	35 inches in length
Mounting	Self tapping metal screws
CFM - std environment	2,000 CFM / Per ion device
CFM - smoking environment	1,000 CFM / Per ion device
Output Ion	Negative $9x10^6$ pieces / cm^3 per Device
Life Span	15,000 Hours

Purify Thermostat Installation

Purify comes with ion block(s), an ion mounting bracket, ion sensing module, thermostat and wires to help tie the ionization into the Purify stat to ensure proper feedback of ionization.

The first step is to mount the ion generator (insert information and picture from economizer control install)

Once the ion generator(s) is/are landed, the wires from the ion generator need to be run back and landed on the terminal strip. See wiring schematic below. The ion core sensor needs to be mounted in the HVAC unit as well. This unit gets power from the existing 24 V power in the HVAC unit. If Purify comes with 5 or more ion blocks, a transformer is provided with Purify so that there is enough power to properly run all ion blocks. Once the ion blocks and core sensor are mounted, the Purify stat needs to be mounted on the wall in an appropriate area or the existing thermostat needs to be replaced. The purify stat will require an additional wire that most thermostats do not require so that feedback from the core sensor can be feed to the Purify stat. See wiring schematic below. Since Purify can be bought as a Wi-Fi stat or a BACnet (building management system) stat, these are 2 different thermostats. Make sure you select the correct schematic for the Purify stat you are using. Once the wires are tied into the Purify stat, power can be applied, and the system will operate.

Ion Generator(s)

Next, mount your ion generator(s) so that the ionization cloud *(refer to ion generator data sheet for more information)* is in front of the inlet to the supply fan (some ion generator(s) should be installed by the inlet of the supply fan on the opposite side of the drive shaft and belt). See **figure [1.3]**. This may require the removal of the top panel on the RTU. If multiple blowers exist, evenly distribute the number of ion generators between them.

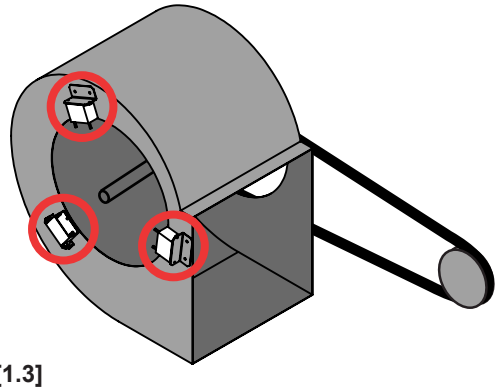


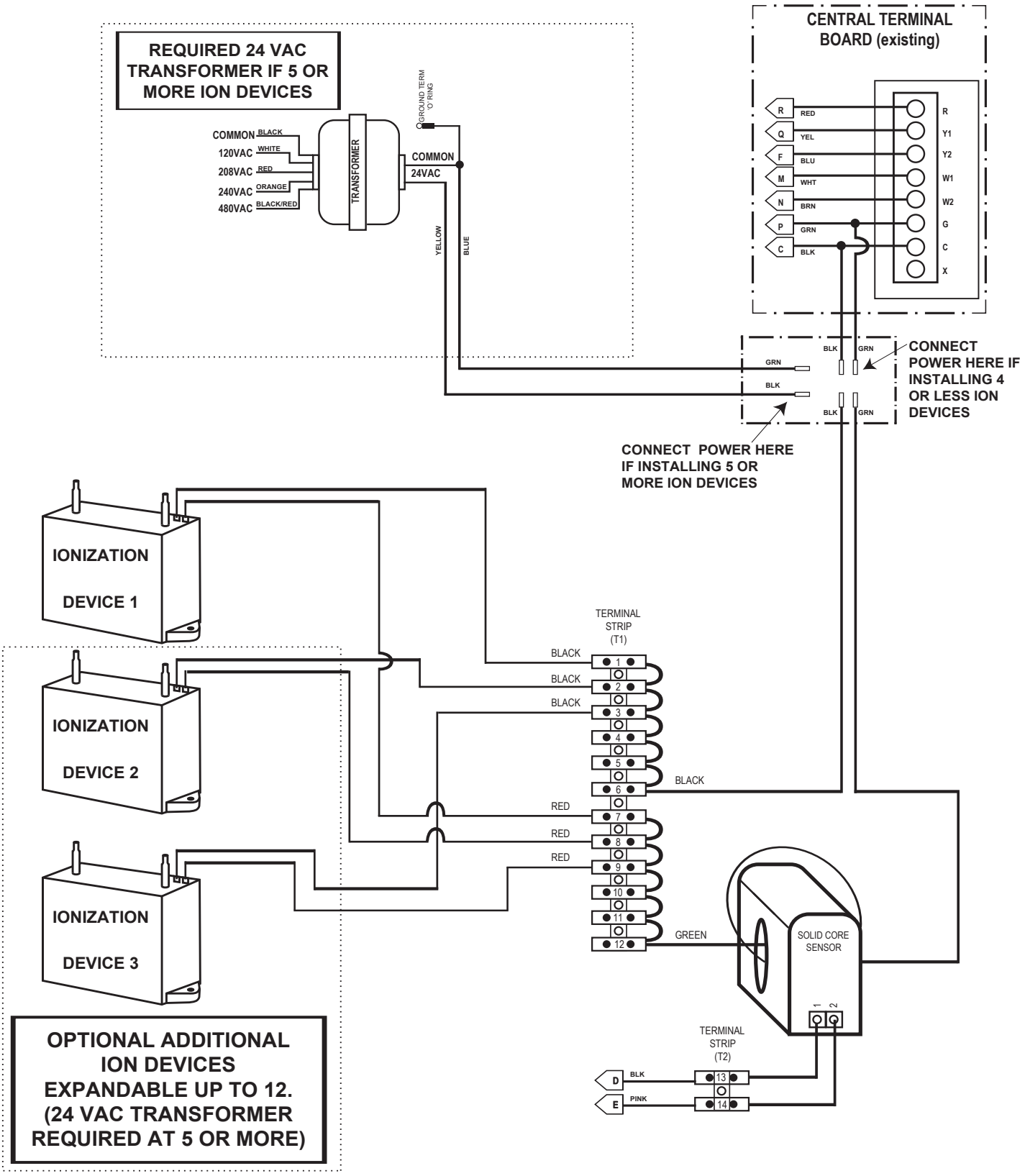
figure [1.3]

If using multiple ion generators, tie the wires of each generator together after mounting (if using the mounting plate, mount the generators to the plate and tie the wires of each generator together before mounting each plate). Be sure to keep all wires away from the generator tips, moving objects and areas that may cause wires to be sucked into the blower.

Purify Thermostat Operational Notes

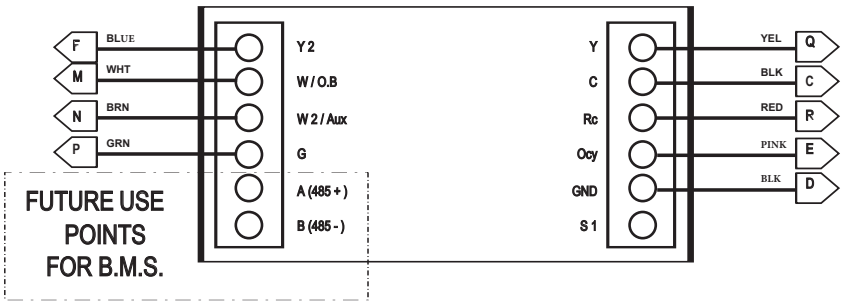
Ionization can only clean the air when the fan on the HVAC unit is running. The thermostat fan setting should be put to On (not auto) to make sure the fan continually runs so that the air is constantly cleaned. If this is not done, you will find that the air cleaning done by the ionization will not be as expected.

Multiple ION Block Wiring



Purify Thermostat Wiring

WIFI ENABLED THERMOSTAT



BAS ENABLED THERMOSTAT