

PACE

Critical Space Controller

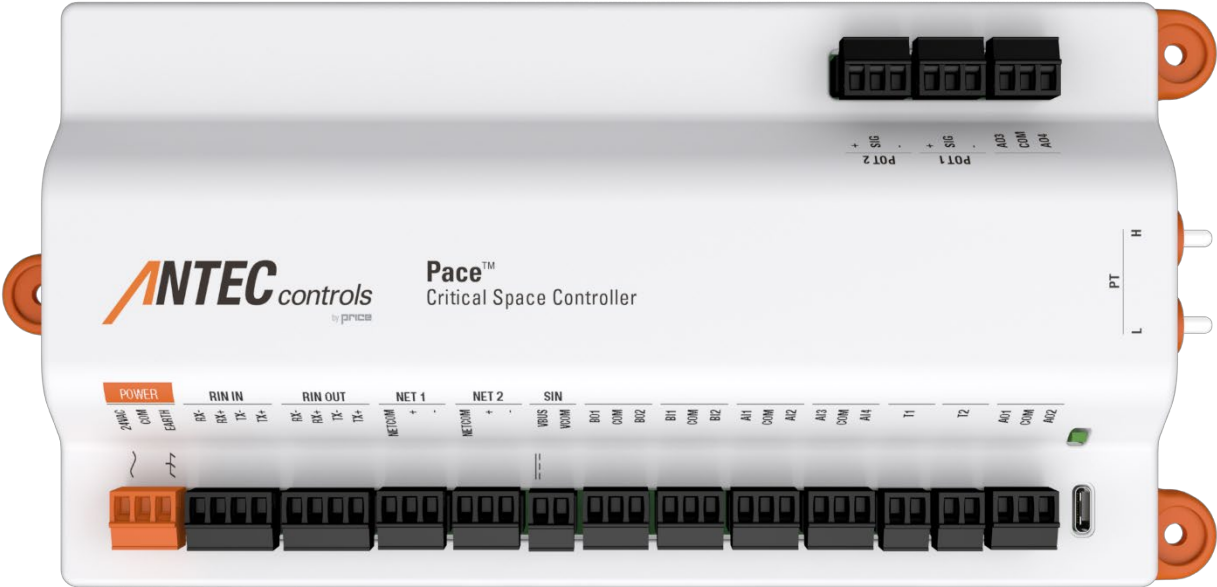


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INTRODUCTION

General

In this manual, you will find:

- Pace™ technical specifications
- Pace™ mechanical and electrical installation
- Pace™ accessories
- Troubleshooting information

Please refer to the project specifications, mechanical and electrical plans, and the Antec Controls project submittal documents for project-specific wiring and configuration details.

Product Overview

Pace™ is a multi-purpose critical space controller designed for room containment through pressurization. Pace™ delivers seamless control in isolation and operating rooms and performs in tandem with the Cava™ Touchscreen Fume Hood Controller (CAVA) when applied to pharmacy or laboratory spaces.

Typical applications for Pace™ include:

- Operating Rooms
- Isolation Rooms
- Laboratories
- Pharmacies
- Clean Rooms

Features

- Flow Offset Control or Room Pressure Control
- High-speed Room Information Network (RIN) for communication between PACE and CAVA controllers
- High-speed Sensor Information Network (SIN) for communication between room level devices and environmental sensors
- Ability to control or monitor up to 12 controllers in a room (including PACE and CAVA)
- Ability to control Venturi Valves (VV), Venturi FX Valves (VFX), or Terminal Units (TU)
- BACnet
- Flexible integration.
- Monitoring/Control of room temperature, humidity, CO2, or VOC
- Easy-to-use setup software

Installation & Service

1. A qualified person must perform installation and electrical wiring in accordance with all applicable codes and standards, including fire-rated construction.
2. Do not damage electrical wiring and other hidden utilities while installing this device.
3. Disconnect power at the service panel before performing wiring or maintenance on this device.
4. Intended for indoor installation only, in area with Pollution Degree 3.
5. Not designed for use in industrial, farming or humid environments.
6. Not designed for use in residential environments and may not have adequate protection to radio interference.
7. Not designed to operate in a construction environment. Use in these environments may lead to excess or unintended wear, reducing product life and/or performance.
8. The manufacturer assumes no responsibility for personal injury or property damage resulting from improper handling, installation, service, or operation of the product.



This mark indicates an important point for the proper function of Pace™ and any of its accessories. Pay close attention to all caution points throughout this manual.

For support and in-depth training on this product and other associated system components, please contact your local Antec Controls Representative.

For more information visit www.AntecControls.com



Technical Specifications

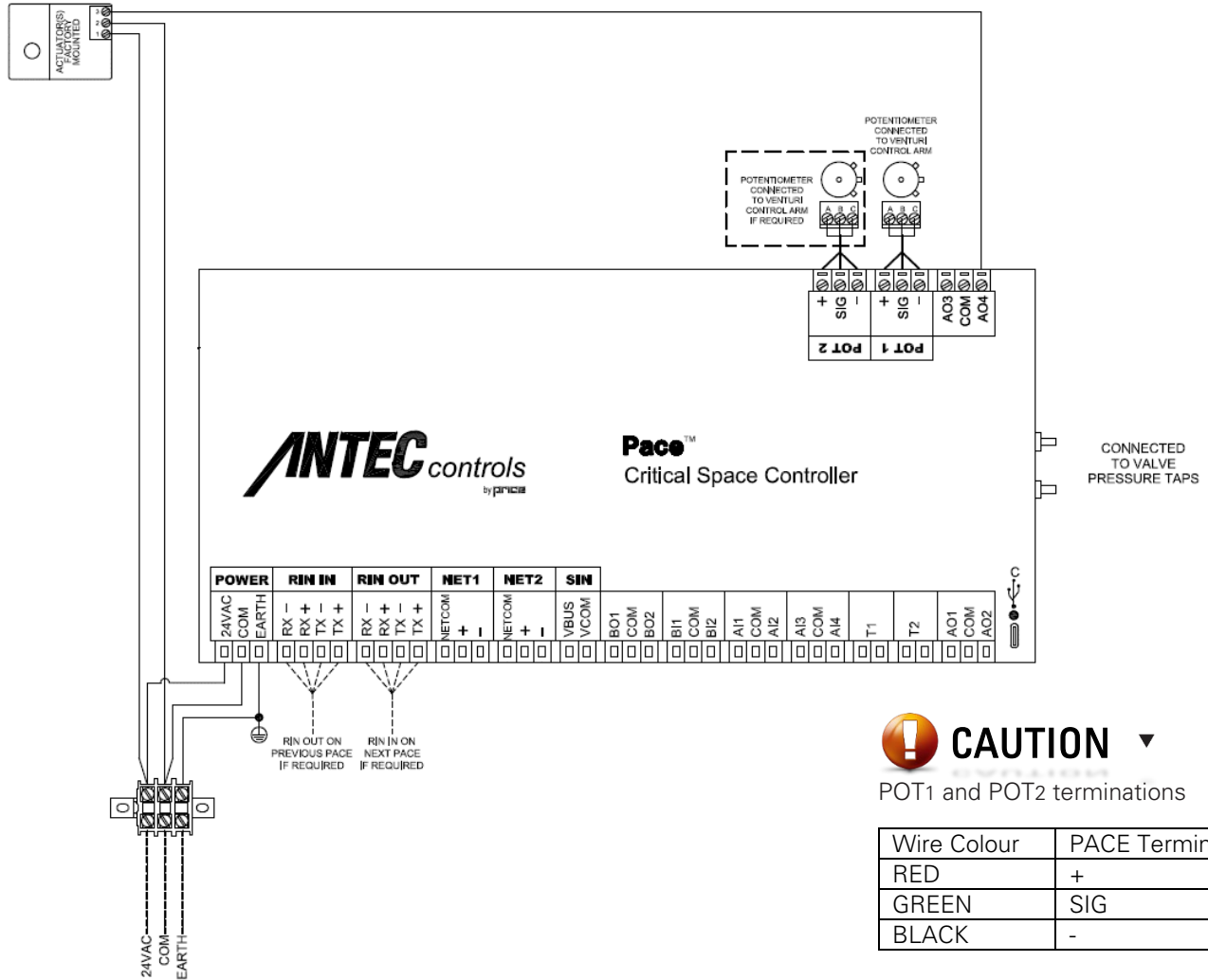
Environmental (Operating)	32°F to 130°F (0°C to 55°C), 5% to 95% R.H. (Non-Condensing)	
Environmental (Storage)	-22°F to 158°F (-30°C to 70°C), 0% to 95% R.H. (Non-Condensing)	
Input Power	24 VAC ±10% Single Phase, 75 VA Max (18 VA excluding external loads), Class 2 or LPS PELV	
Inputs	2 Binary Inputs (Contact Closure) 4 Analog Inputs (0 to 10 VDC) 2 10k Type 2 Thermistors Inputs Room Information Network 2 Pot Inputs 2 RS485 Network (BACnet, SIN) 1 Transducer (VV: 0-4 in.w.c., 0-995.4 Pa, VFX: 0-2 in.w.c., 0-497.7 Pa)	
Outputs	2 Active Binary Outputs (Max: 24 VAC, 500 mA) 4 Analog Outputs (0 to 10 VDC, Max: 10 mA) 1 SIN Power Output (34 VDC, Max: 300 mA)	
Indicators	Status LED	
Housing	UL 94 V-0, PC-ABS Plastic	
Rated Impulse Voltage	330 V (after transformer)	
Communication Protocol	BACnet	
BACnet	Device Type	B-AAC
	Communication Type	MS/TP (RS-485)
	Communication Speed	9600, 19200, 38400, 76800
	Certification	BTL
	Control Priority Order	1. Antec Toolbox 2. BACnet 3. Normal operation

NOTES:

1. Upon power loss, the controller will reset and automatically resume control function.
2. The controller is intended for 24-hour continuous operating time.

ELECTRICAL INSTALLATION

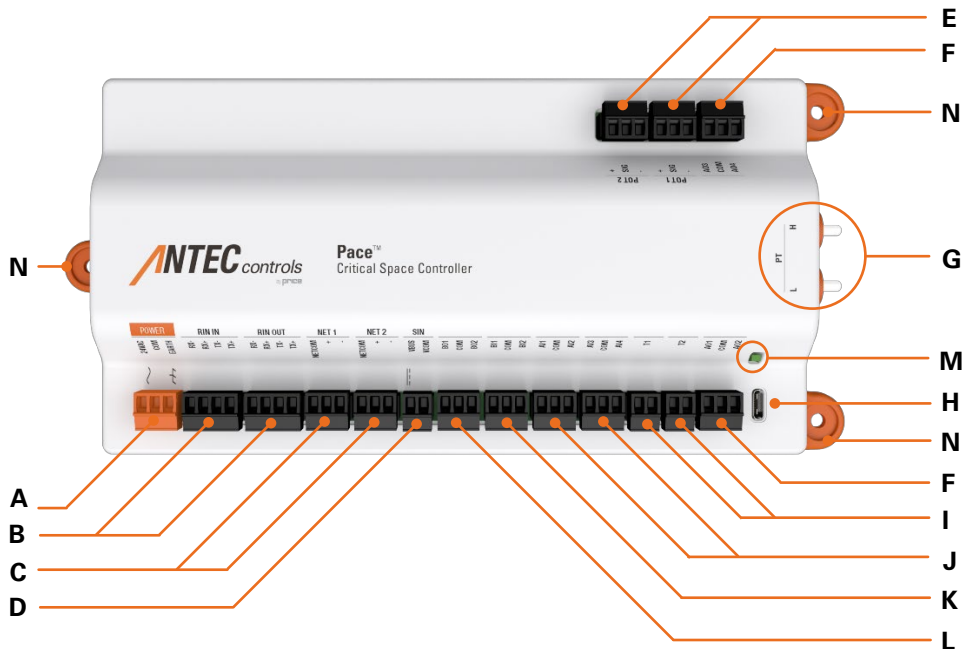
Wiring



NOTES:

1. For Typical Network Wiring Diagrams, see [Room Information Network \(RIN\)](#), [Sensor Information Network \(SIN\)](#), and [BACnet MS/TP](#) sections.
2. All wire connections to the Pace™ screw connection terminals must be between 16 – 26 AWG wire.
3. All wire connections from external wires to the 24VAC/COM terminal block must be between 8 – 20 AWG wire.
4. Current and voltage drop should be taken into consideration when selecting wire gauge.
5. Earth ground to the enclosure is factory wired prior to shipping.
6. Wiring shown above may not reflect those required for your project. Refer to your Antec Controls Project Submittals for project specific wiring diagrams.

I/O Details



Input / Output Usage

A	Power Input
B	Room Information Network (RIN) Connections
C	Configurable RS485 Network Connections
D	Sensor Information Network (SIN) Connections
E	Potentiometer Inputs
F	Analog Inputs
G	Pressure Taps
H	USB-C Connection Port
I	Thermistor Inputs
J	Analog Inputs
K	Binary Inputs
L	Binary Outputs
M	Indicator LED
N	Mounting Holes

Indicator Action	Indicator Color	Description
Solid	Green	The unit is configured and operating as expected.
Solid	Amber	Unit is not operating as expected. Connect to the controller using Antec Toolbox to troubleshoot the potential issue.
Solid	Blue	The unit has not been configured.
Solid	Red	Insufficient power.
Blinking	Green	Ping is active on the controller.
Solid	Magenta	No firmware on device

NOTES:

1. The controller is factory mounted in a metal enclosure using #8 x 5/16" (7.9 mm) screws through the three mounting holes shown in Figure 1.
2. The maximum torque rating for any bushings on the enclosure is 4.43 in-lbs (0.5 N·m).

Room Information Network (RIN)

What is the Room Information Network?

The Room Information Network (RIN) is the high-speed network through which each Pace™ in the room will communicate. After the user has configured how the room is to operate, each Pace™ will communicate on this network to ensure the room remains safe and is operating as intended.

Antec Toolbox also uses RIN for room configuration. The user will plug into RIN to communicate with each device and configure the functionality of the room. There will only be one access point per room, typically via a keystone jack behind the room thermostat as seen below in the Typical RIN Wiring diagram.

Network Addressing

All Pace™ devices will come from the factory with predefined MAC addresses. Upon initial configuration, each device will also populate with a unique name based on the Valve Tag in the order's linestring. The name is customizable if a different naming convention is required.

Physical Connection

RIN consists of a four-wire network architecture (RX-, RX+, TX-, TX+) using a daisy-chain connection between each device on the network segment. Up to 12 RIN and CAVA devices may reside on a single network segment.

Users will require an Ethernet port or a USB-A to Ethernet dongle to connect a laptop to the RIN network for configuration.

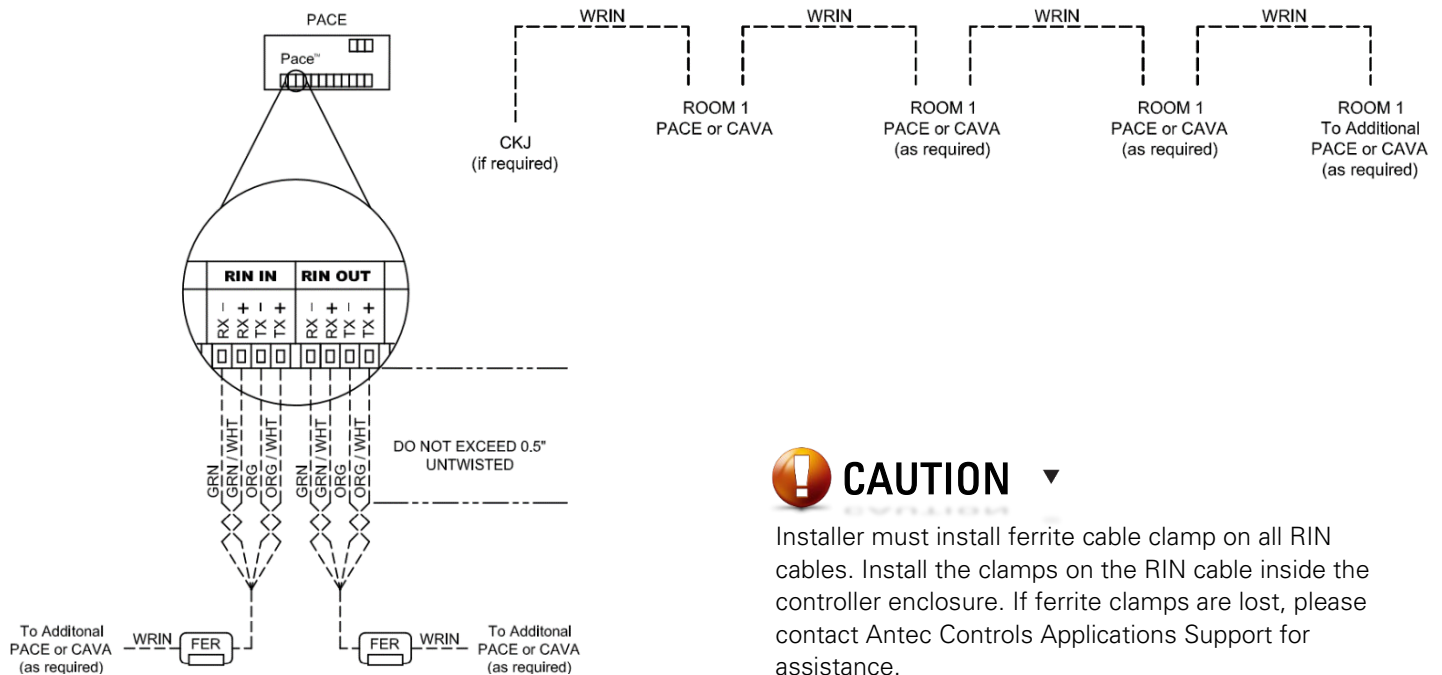
Wiring Requirements

Refer to your Antec Controls Wiring Diagram Package for typical wiring requirements and recommendations.



Use caution when connecting a laptop to the keystone jack behind the thermostat. If ES power is wired to the keystone jack, it may damage the laptop's Ethernet port.

Typical RIN Wiring



Installer must install ferrite cable clamp on all RIN cables. Install the clamps on the RIN cable inside the controller enclosure. If ferrite clamps are lost, please contact Antec Controls Applications Support for assistance.

NOTE: Ferrite clamps are included with the PACE controller. When PACE is valve mounted, two ferrite clamps are included inside the enclosure. When PACE is shipped loose, two ferrite clamps will be included loose.

Sensor Information Network (SIN)

What is the Sensor Information Network?

The Sensor Information Network (SIN) is a communication protocol between Pace™ and the SIN Room Pressure Sensor (SRPS). SIN allows for digital communication between multiple SRPSs without requiring multiple inputs on Pace™.

Network Addressing

SIN devices will come from the factory with predefined MAC addresses. No addressing on-site is required. There is a limit of three SIN devices on one Sensor Information Network.

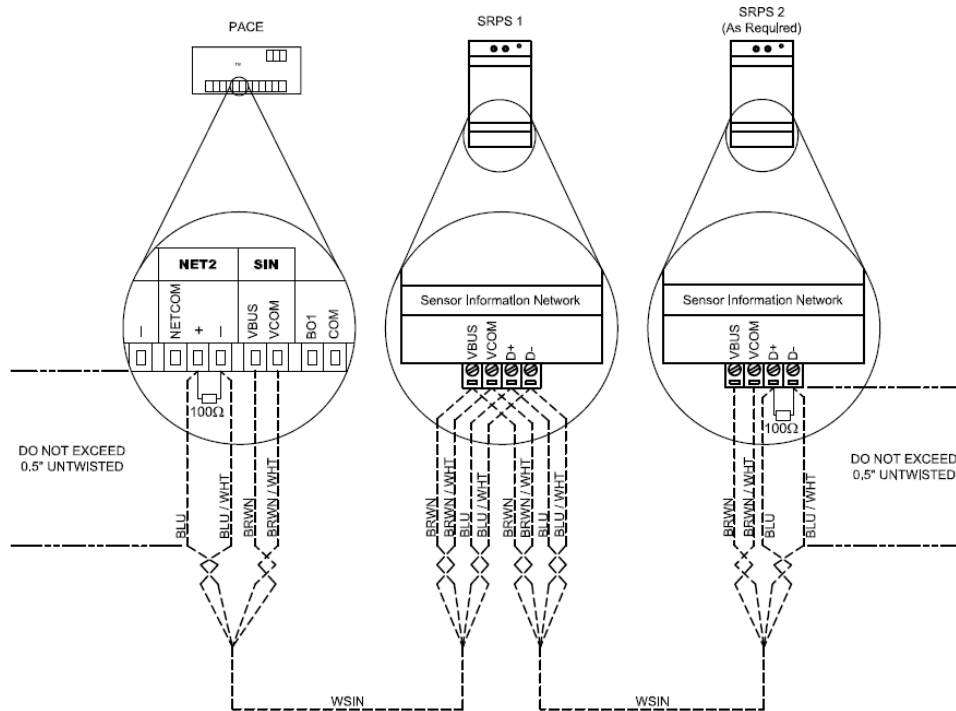
Physical Connection

SIN consists of a four-wire network architecture (VBUS, VCOM, D+, and D-) using a daisy-chain connection between each device on the network segment.

Wiring Requirements

Refer to your Antec Controls Wiring Diagram Package for typical wiring requirements and recommendations.

Typical SIN Wiring



NOTE: Installer must use a 100-ohm resistor at both SIN end of line terminations of the "+" and "-" terminals.

BACnet MS/TP Network

What is BACnet?

BACnet MS/TP is a communication protocol for communication between Pace™ and the building automation network. BACnet communication allows the end user to verify rooms and fume hoods are operating as expected and allows them to set up trends to monitor safety, and any alarms that occur.

If no Pace™ controllers are present in the space, a single Cava™ in the room can act as the access point to BACnet. All the fume hood's information transmits through this one Cava™ to the network.

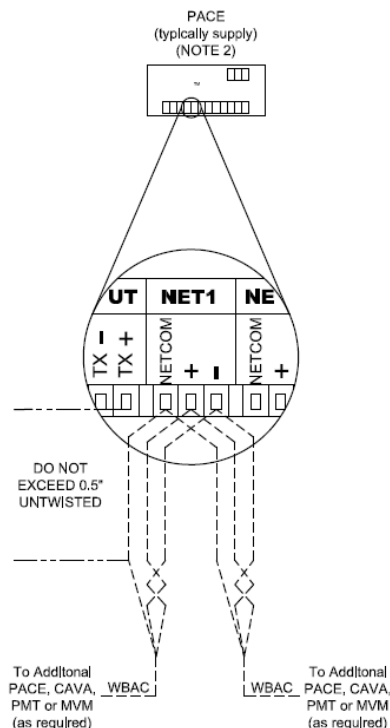
Network Addressing

When configuring Pace™, the user needs to assign the unique identifying address for the room.

On any BACnet MS/TP network:

- MAC Address can be between 0 and 127 and must be unique to the MS/TP segment.
- Device Instance can be between 0 and 4,194,303 and must be unique to the facility.
- Baud Rate can be 9,600, 19,200, 38,400, or 76,800 and must match that of the Router/System Controller for the MS/TP segment.

Typical BACnet Wiring



BACnet Points

See Pace™ Product Submittal at AntecControls.com for BACnet Points List.

Physical Connection

BACnet consists of a three-wire network architecture. Daisy chain the +, -, and COM connections of all devices on the network segment.

A BACnet MS/TP segment has a limit of:

- Maximum of 32 devices
- Maximum length of 1050 feet (320 meters) for the whole segment

When using shielded cable, ground the shield at one end of the network segment only. Connect the shield of the cable entering a device to that of the cable exiting the device.

Terminate the MS/TP network segment at each end of the network segment by connecting a 120-ohm resistor between the + and – terminals. Remove the termination resistor or disable any network terminations on all devices when adding devices to an existing network segment.

Wiring Requirements

Refer to your Antec Controls Wiring Diagram Package for typical wiring requirements and recommendations.



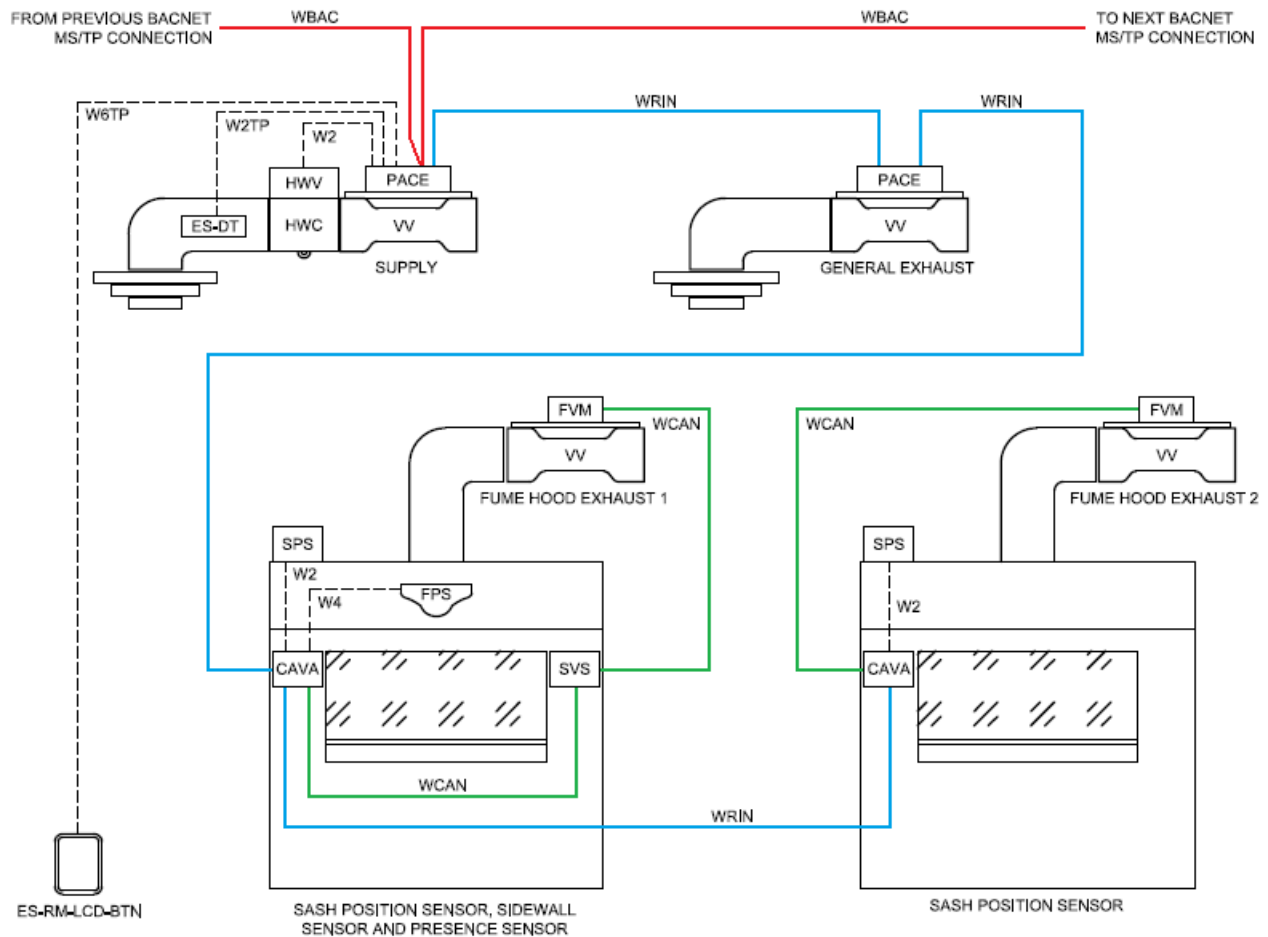
When using non-isolated power supplies (i.e. Transformer secondary common connected to ground), do not reverse 24VAC polarity on any device, as it is critical to the network health.

NOTE: Installer must use a 120-ohm resistor at the BACnet end of line termination on Pace™.

Network Architecture Summary

See the information outlined in the example below for a summary of the network architecture of Pace™.

Typical Laboratory Wiring



Line Color	Network Type	Considerations
Blue	Room Information Network (RIN)	Up to 12 controllers (PACE and CAVA combined) Daisy chained network wiring between each device on the network NOTE: A connection through a RIN access point is used to start-up and commission the system. An Ethernet Port on the back of any CAVA can act as this access point.
Green	Controller Area Network (CAN)	Maximum of three Sidewall Velocity Sensors (SVS) Maximum of one Fume Hood Valve Module (FVM) Daisy chained network wiring between each device on the network
Red	BACnet MS/TP	Recommended up to 32 devices (including CAVA, PACE, PMT, MVM, or 3rd party) One BACnet network is allowed per RIN Daisy chained MS/TP segment only connects through one PACE (or CAVA if no PACE is present) controller per room

ROOM ACCESSORIES

Pace™ can function with a variety of products to monitor environmental values, input variables and tools to aid in network integration.

Room Accessories and Optional Products provided by Antec Controls include:

1. Room Environmental Sensors (ES)
2. Duct Environmental Sensors (ES)
3. Door Contact Switches (DCS)
4. Sensor Information Network Device (SIND)
5. Pressure Transducer (PTX)
6. BACnet MS/TP to BACnet IP Router (RTR)
7. Valve Power Transformers (VPT)



Many different types of room accessories can be used with Pace™. When using accessories by Others, ensure that the output from or input to the device meets the requirements of the inputs and outputs on Pace™.

Room Environmental Sensors (ES)

Room Environmental Sensors (ES) are devices installed in the room to measure environmental conditions for the space such as Room Temperature, Humidity, and CO₂. The thermostat provides readings to Pace™ used for either control or monitoring purposes based upon the sequencing required in the room.

Certain ES models can come with a keystone jack installed on the back plate of the sensor. This keystone is the technician's access point for performing configuration, balancing, commissioning and troubleshooting for the room.

Overview

See the ES product submittal on AntecControls.com for Specifications, Dimensions, and Wiring of each option shown below.

1. Room Temperature Sensor

Model: ES-RM

- Features:
- Room temperature reading
 - Setpoint cannot be adjusted locally in the room – eliminates unauthorized tampering of the room temperature setpoint
 - Setpoint changes occur through BACnet
 - Keystone jack for technician access to room network for configuration



2. Room Temperature Sensor with Display

Model: ES-RM-LCD

- Features:
- Room temperature reading
 - Local display for room temperature
 - Setpoint cannot be adjusted locally in the room – eliminates unauthorized tampering of the room temperature setpoint
 - Setpoint changes occur through BACnet
 - Keystone jack for technician access to room network for configuration



3. Room Temperature Sensor with Display and Pushbutton Setpoint Adjustment

Model: ES-RM-LCD-BTN

- Features:
- Room temperature reading
 - Local display for room temperature
 - Local adjustment of room temperature setpoint
 - Keystone jack for technician access to room network for configuration



4. Room Temperature Sensor with Display, Pushbutton Setpoint Adjustment and Occupancy

Model: ES-RM-LCD-BTN-OCC

- Features:
- Room temperature reading
 - Local display for room temperature
 - Local adjustment of room temperature setpoint
 - Keystone jack for technician access to room network for configuration
 - Local occupancy override



5. Room Temperature Sensor with Display and Relative Humidity Sensor

Model: ES-RM-LCD-RH

- Features:
- Room temperature reading
 - Room humidity reading
 - Local display for room temperature and humidity
 - Setpoint cannot be adjusted locally in the room – eliminates unauthorized tampering of the room temperature setpoint
 - Setpoint changes occur through BACnet
 - Keystone jack for technician access to room network for configuration



6. Room Temperature Sensor with Display, Pushbutton Setpoint Adjustment, Occupancy and Relative Humidity Sensor

Model: ES-RM-LCD-BTN-RH-OCC

- Features:
- Room temperature reading
 - Room humidity reading
 - Local display for room temperature and humidity
 - Local adjustment of room temperature setpoint
 - Keystone jack for technician access to room network for configuration



7. Room Temperature Sensor with Relative Humidity Sensor and Carbon Dioxide Sensor

Model: ES-RM-RH-CO2

- Features:
- Room temperature reading
 - Room humidity reading
 - Room carbon dioxide reading
 - Setpoint cannot be adjusted locally in the room – eliminates unauthorized tampering of the room temperature setpoint
 - Setpoint changes occur through BACnet



8. Room Temperature Sensor with Display, Relative Humidity Sensor and Carbon Dioxide Sensor

Model: ES-RM-LCD-RH-CO2

- Features:
- Room temperature reading
 - Room humidity reading
 - Room carbon dioxide reading
 - Local display for room temperature, humidity, and carbon dioxide
 - Local adjustment of room temperature setpoint
 - Setpoint cannot be adjusted locally in the room – eliminates unauthorized tampering of the room temperature setpoint
 - Setpoint changes occur through BACnet



Installation

For junction box installation (shown to the right):

1. Pull the wire connection from Pace™ through the junction box, leaving roughly six inches of free wire.
2. Pull the wire for the thermostat connection through the hole in the base plate.
3. Secure the plate to the junction box using the #6-32 x 5/8" (15.9 mm) mounting screws provided.
4. Terminate the unit according to the project submittal wiring diagrams.
5. If applicable, terminate the keystone jack according to the [Typical RIN Wiring](#).
6. Mold the foam on the base plate to the wire bundle to prevent drafts.
7. Attach the thermostat cover by latching it to the top of the base, rotating the cover down and snapping it into place.
8. Secure the cover by backing out the lock-down screw using a 1/16 in. (1.6 mm) Allen wrench until it is flush with the bottom of the cover.

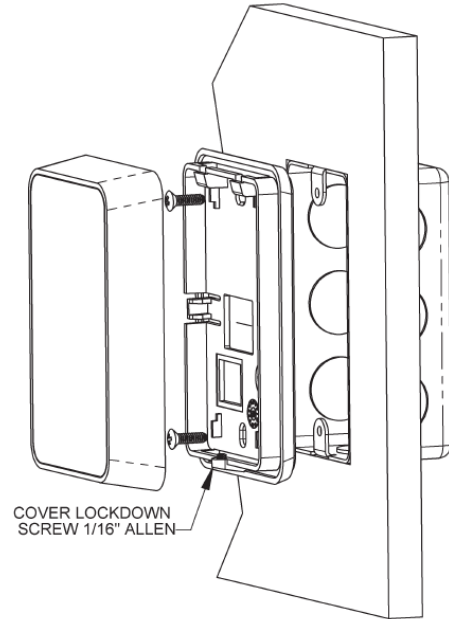
For drywall installation:

1. Place the base plate against the wall where the thermostat is to be mounted.
2. Using a pencil, mark out the two mounting holes, the area where the wires will come through the wall, and, if required, the area required for the keystone jack.
3. Drill two 3/16 in. (4.8 mm) holes for the drywall anchors. DO NOT punch the holes or the anchors will not hold.
4. Drill one 1/2 in. (12.7 mm) hole for the wires to pass through.
5. If applicable, drill a single one-inch (1 in., 25.4 mm) hole for the keystone jack.
6. Pull the wire through the holes in the wall, leaving roughly six inches (6 in., 152.4mm) of free wire.
7. Pull the wire for the thermostat connection through the hole in the base plate.
8. Secure the base to the drywall anchors using the #6 x 1" (25.4 mm) mounting screws provided.
9. Terminate the unit according to the project submittal wiring diagrams.
10. If applicable, terminate the keystone jack according to the [Typical RIN Wiring](#).
11. Mold the foam on the base plate to the wire bundle to prevent drafts.
12. Attach the thermostat cover by latching it to the top of the base, rotating the cover down and snapping it into place.
13. Secure the cover by backing out the lock-down screw using a 1/16 in. (1.6 mm) Allen wrench until it is flush with the bottom of the cover.

CAUTION

Before beginning, screw the 1/16" (1.6 mm) set screw into the base of the thermostat cover. To secure the base plate, loosen the set screw until it is flush with the cover. This will reduce the chances of losing the screw.

Room Environmental Sensor Installation



NOTES:

1. When installing the thermostat, Antec Controls recommends sealing the conduit leading to the junction box, filling the junction box with fiberglass insulation, or sealing the wall cavity to prevent any false temperature readings or condensation that may occur from the air within the wall cavity.
2. The location of the thermostat can affect the control of the temperature in the room. It is important to ensure that the thermostat is:
 - a. not directly below a supply diffuser.
 - b. not located directly next to any equipment that will emit hot or cold air.
 - c. not located immediately next to a door with high in/out traffic.
3. Remember that the thermostat is most often the RIN access point for configuration of the room and should be in a location that will be easy to access.

Duct Environmental Sensors (ES)

Duct Environmental Sensors (ES) are devices installed in the duct to measure environmental conditions of the air entering or leaving the space such as Duct Temperature and Humidity. The duct sensor provides readings to Pace™ used for either control or monitoring purposes based upon the sequencing required in the room.

Overview

See the ES product submittal on AntecControls.com for Specifications and Dimensions of each option shown below.

Options

1. Duct Mounted Sensor

Model: ES-DT

Features:

- Temperature reading



2. Duct Mounted Sensor with Relative Humidity Sensor

Model: ES-DT-RH

Features:

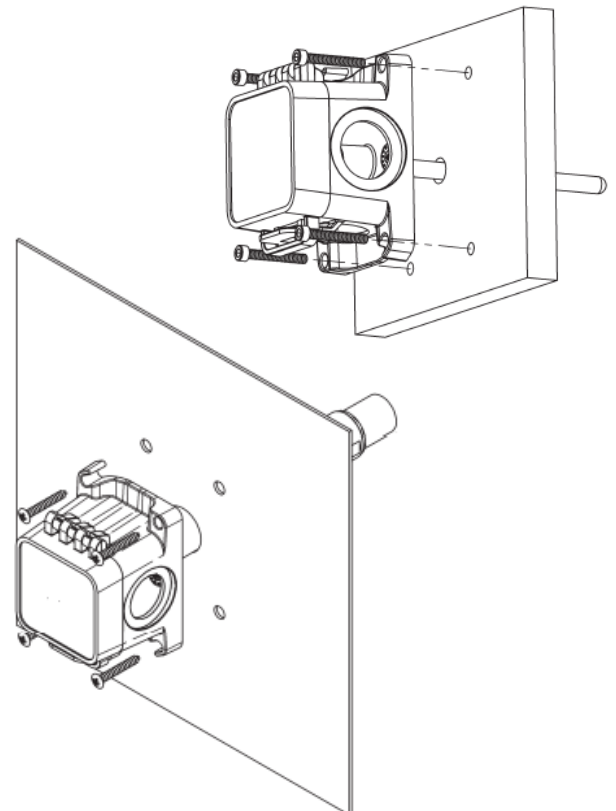
- Temperature reading
- Relative humidity reading



Installation

1. Place the sensor in the middle of the duct away from temperature stratified air, coils or humidifiers. For best readings, install the probe three (3) duct diameters away from any of these devices.
2. Drill a hole for the probe in the desired location in the duct and insert the probe into the duct.
3. Mount the enclosure to the duct using #8 screws through a minimum of two opposing mounting tabs. This can be done with self-tapping screws, or by marking the duct using the duct probe's enclosure and pre-drilling holes.
4. Tighten the screws so the foam backing compresses against the duct to prevent air leakage but be careful not to over-tighten or strip the screw threads.
5. One of the knockout plugs may be removed to run the wiring to Pace™.

NOTE: The location of the duct probe can affect the control of the room temperature depending on the sequencing of Pace™ controllers in the room. Ensure proper installation of the duct probe before modifying sequencing or settings.



Door Contact Switches (DCS)

Installing Door Contact Switches (DCS) to monitor the open/closed status of any doors entering a room can be a useful tool in determining the proper functionality of the room. In most cases, door contact switches are not necessary for anything other than assurance that the door is not being propped open for extended periods of time, which may cause temperature control issues or may result in improper airflow direction from one space to the next. However, door switches become critical when performing Pressure Control sequences.

Maintaining a pressure setpoint in a room is not feasible when a door is open. An unmonitored door can cause the pressure control PID loop to ramp unnecessarily out of control and will cause instability issues when opened. In pressure control sequences, it is essential to have the door sensors installed to freeze any PID loops for pressure control and ensure a stable response once the door closes.

Overview

See the DCS product submittal on AntecControls.com for Specifications and Dimensions of each option shown below.

Options

1. Surface Mounted

Model: DCS-S

- Features:
- Normally open
 - Simple mounting
 - Easy to maintain



2. Flush Mounted

Model: DCS-F

- Features:
- Low profile mounting
 - Normally open



Installation

For surface mount installation:

1. Use either the sensor to mark the location on the door frame and the door where the sensor is to be mounted or use the hole dimensions provided on the DCS product submittal.

NOTE: Both parts of the sensor must be in line with each other and the gap between them must not exceed one inch (1 in., 25.4 mm).

2. Secure the sensor without the wire connection to the door using two #6 screws.
3. Tighten the screws so the foam backing compresses against the duct to prevent air leakage but be careful not to over-tighten or strip the screw threads.
4. Secure the sensor with the wire connection to the doorframe using two #6 screws.

For flush mount installation:

1. Mark the installation location on the inside of the doorframe and on the outer edge of the door.

NOTE: Both parts of the sensor must be in line with each other and the gap between them must not exceed 1.1 in. (27.94 mm)
2. Drill a 3/4 in. (19.1 mm) hole in both locations.
3. Press the sensor without the wire connections into the door until flush with the edge.
4. Run the wires from Pace™ through the hole in the doorframe, leaving roughly 6 inches (6 in., 152.4 mm) of loose wire.
5. Terminate the wires to the sensor.
6. Press the sensor with the wire connection into the doorframe until flush with the edge.

Sensor Information Network Device (SIND)

Install a Sensor Information Network Device (SIND) whenever room pressure monitoring or control is required. A room pressure sensor operating on SIN will measure room pressure in up to three spaces and transmit the room pressure reading to Pace™ using SIN. If required, Pace™ can alarm for room pressure readings outside the acceptable range on any sensor. Pace™ can control air valves in the room to maintain room pressure using any individual reading, an average of all readings, or choose the minimum or maximum reading.

Overview

See the PTX product submittal on AntecControls.com for Specifications, Dimensions and Configurations.

Options

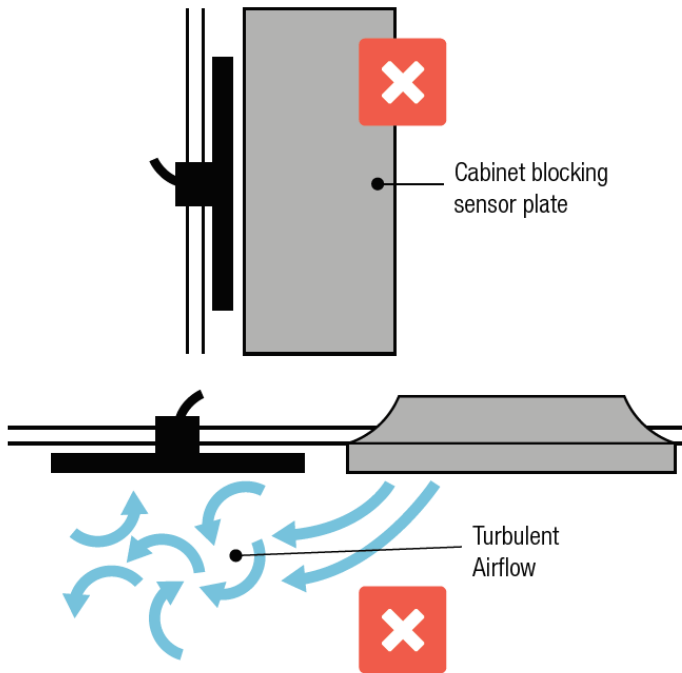
1. Room Pressure Sensor

Model: SRPS

- Features:
- Digital reading communicated via SIN
 - +/- 0.1 in.w.c. (+/- 25 Pa) range
 - Accurate to 3% of reading
 - LED light used for PING identification
 - Two pressure ports – one for measured space, one for reference space
 - DIN rail for mounting the SRPS
 - Stainless steel or plastic sensor plates



Installation



Selecting a Location for Installation

There are three components that are to be installed for each space that requires pressure monitoring.

1. A Sensor Plate inside the room
2. A Sensor Plate outside the room
3. A Room Pressure Sensor

NOTE: If the PMT is monitoring multiple spaces, the following steps will need to be repeated for every space.

Begin by determining installation locations for each of these components.

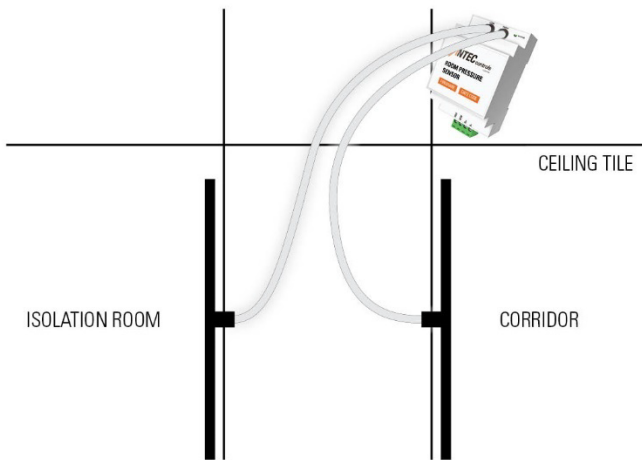
1. The best installation location for the Sensor Plates is typically above a doorway. When determining the location for the Sensor Plates:
 - a. ensure that nothing can be placed in front of the pressure sensor, blocking its ability to measure the room pressure accurately.
 - b. be wary of diffuser placement in relation to the sensor. Turbulent airflow passing over the Sensor Plate can cause unstable pressure readings.
2. The Room Pressure Sensor can be mounted in the plenum space either in the room, or in the reference space. Important notes:
 - a. **The sensor must be placed in a location where the ninety-six inches (96 in., 2.44 m) pressure tubing provided with the SRPS can reach both pressure plates.**
 - b. The sensor should be easily accessible for wiring and setup.



CAUTION ▼

Incorrect placement can affect the sensor's readings.

Once the installation locations have been selected, the Sensor Plates can be mounted using the followings steps.



Prior to mounting the Sensor Plates, cut the ninety-six inches (96 in., 2.44 m) clear tubing to the required length for the distance from each plate to the sensor. Example: If the plate for the isolation room is five feet (5 ft, 1.52 m) from the SRPS and the plate for the corridor is three feet (3 ft, 0.91 m), cut the provided tubing into one five-foot (5 ft, 1.52 m) and one three-foot (3 ft, 0.91 m) length.

To mount the ABS Sensor Plate directly to the wall:

1. Cut a 1 in. hole for the tubing to pass through.
2. Use the Sensor Plate to mark the holes for the anchors (anchors require 3/16 in. (4.8 mm) drill). Drill hole and install the provided anchors.
3. Push the clear tubing onto the pickup on the back of the Sensor Plate.
4. Run the tubing through the one inch (1 in., 25.4 mm) hole in the wall and mount the Sensor Plate to the surface using screws provided.
5. Connect tubing to the Room Pressure Sensor (SRPS).
 - a. Monitored space to high pressure port.
 - b. Reference space to low pressure port.

To mount the stainless-steel Sensor Plate to a single gang electrical box:

1. Knockout a hole for the tubing to pass through.
2. Push the clear tubing onto the pickup on the back of the Sensor Plate.
3. Run the tubing through the electrical box or conduit.
4. Using the provided screws, mount the Sensor Plate to the electrical box.
5. Connect tubing to the Room Pressure Sensor (SRPS).
 - a. Monitored space to high pressure port.]
 - b. Reference space to low pressure port.

CAUTION ▼

Make note if the tubing is reversed when installed. If the corridor is connected to the high-pressure port on the SRPS, the reading can be reversed during setup.

Do not extend the pressure tubing past the provided length of 96 in. (2.44 m). Extending the tubing past this length can result in degradation of the pressure reading.

Do not connect tubing from the SRPS to any other pressure measurement devices.

Do not tee off the tubing to connect to any additional devices.

Pressure Transducer (PTX)

The pressure Transducer (PTX) is a configurable sensor that is used to measure pressure.

Overview

See the PTX product submittal on [AntecControls.com](https://www.antecontrols.com) for Specifications, Dimensions and Configurations.

Options

1. Pressure Transducer

Model: PTX

- Features:
- 0 – 10 VDC outputs for pressure reading
 - Configurable pressure range from 0-0.1 in.w.c. (0-25 Pa) to 0-2.0 in.w.c. (0-498 Pa)
 - Accurate to 3% of reading
 - DIN rail mounting
-



BACnet MS/TP to BACnet IP Router (RTR)

The BACnet MS/TP to BACnet IP Router (RTR) is used to convert the MS/TP communication from Pace™ to a BACnet IP protocol that can then communicate with the Building Management System.

Overview

See the RTR product submittal on AntecControls.com for Specifications, Dimensions, and Mounting.

Options

1. BACnet MS/TP to BACnet IP Router (RTR)

Model: RTR

- Features:
- Built-in end of line termination
 - Password protected configuration
 - Converts up to 32 devices from BACnet MS/TP to BACnet IP communication
 - DIN rail mounting
-



Valve Power Transformers (VPT)

Valve Power Transformers (VPT) provide the necessary 24VAC power for Pace™ and any associated Room Accessories. VPT can be provided depending on power requirements for any specific valve or for an entire room.

Overview

See the VPT product submittal on AntecControls.com for Specifications and Dimensions.

Options

1. 50 VA Transformer

- Model: VPT-50
 Features:
 - Shipped loose
 - Primary 115VAC

2. 96 VA Transformer

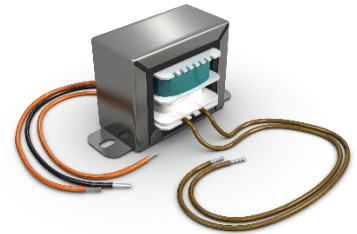
- Model: VPT-96
 Features:
 - Shipped loose
 - Primary: 480/277/240/115VAC

3. 300 VA Transformer

- Model: VPT-300
 Features:
 - Mounted power bank
 - Primary: 480/277/240/115VAC

4. 500 VA Transformer

- Model: VPT-500
 Features:
 - Mounted power bank
 - Primary: 480/277/240/115VAC



MAINTENANCE

Troubleshooting

Symptom	Possible Causes	Solution
Thermostat is not powered	Incorrect wiring	Check polarity of the power. If the CKJ is also wired on the thermostat, ensure that the correct wire was used for the thermostat's power connection.
Missing PACE/CAVA controllers	Incorrect wiring	Check polarity for the RIN wiring. Check for loose wires on the RIN terminals.
Laptop cannot connect to PACE controllers	Incorrect wiring	If the CKJ is also wired on the thermostat, ensure that the correct wire was used for RIN. Check the integrity of the connection for the CKJ connection.
	Computer settings	Disable any firewalls that may be active.
Airflow displaying as negative in Antec Toolbox	Incorrect wiring	Ensure all potentiometer wires are seated correctly.
PACE LEDs are flashing from Green to Blue and actuator output voltage is fluctuating	Issue loading room configuration file	Call Antec Controls Applications for assistance.

Replacement Parts

Replacement parts are available. Please contact your local Antec Controls Representative.

Technical Support

If technical support is required, please contact us:

By Email: Applications@AntecControls.com

By Phone: 866.884.3524

Hours of Operation: Monday – Friday, 8:00 AM to 4:30 PM CT

NOTE: If you will need support after hours, please contact us 48 hours in advance.



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The complete product catalog can be viewed online at [AntecControls.com](https://www.AntecControls.com)
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