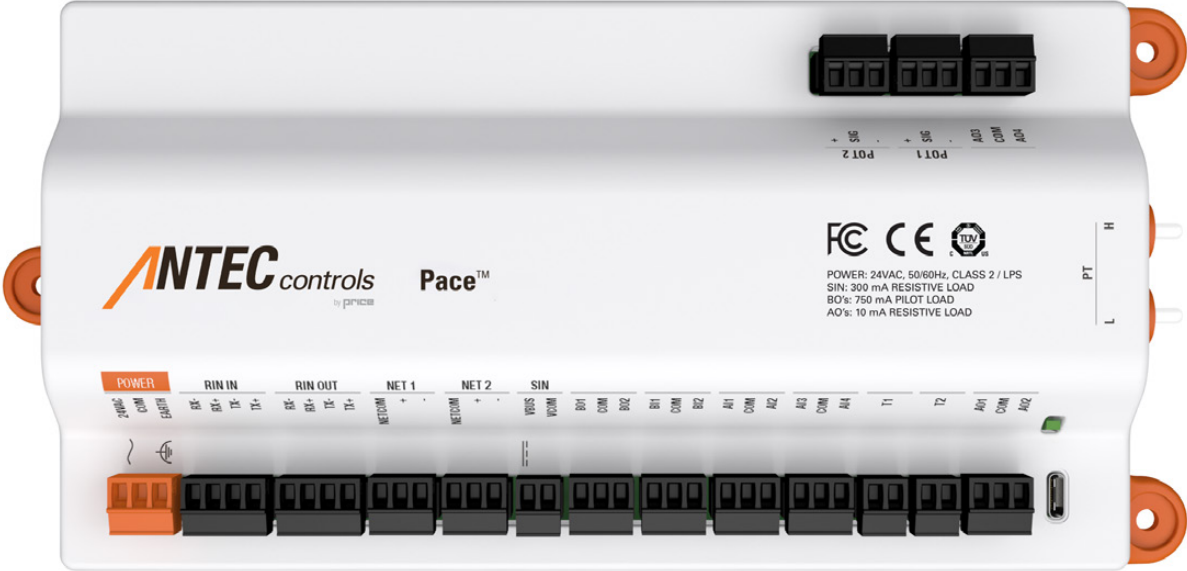


# PACE

## Critical Space Controller



MANUAL V100  
FIRMWARE V1.0.0



## TABLE OF CONTENTS

### Introduction

- Safety Precautions ..... 1
- Caution to Contractors ..... 1
- Product Overview..... 1
- Technical Specifications..... 2
- Details ..... 3

### Networking

- Room Information Network (RIN)..... 4
- Sensor Information Network (SIN) ..... 5
- Fume Hood Network (FHN)..... 6
- BACnet MS/TP Network..... 7

### Room Accessories

- Room Environmental Sensors (ES) ..... 8
- Duct Environmental Sensors (ES) ..... 11
- Door Switches (DCS)..... 12
- Sensor Information Network Device (SIND)..... 13
- Pressure Transducer (PTX)..... 15
- BACnet MS/TP to BACnet IP Router (RTR) ..... 15
- Valve Power Transformers (VPT) ..... 15

### Troubleshooting

- Technical Support ..... 16

### IMPORTANT NOTES ▼

#### CAUTION ▼

This mark indicates an important point for the proper function of the Pace™ Critical Space Controller. Improper installation or setup may cause unit failure. Pay close attention to all caution notes throughout this manual.

For local area support, please contact your local Antec Controls Representative

For more information visit [AntecControls.com](http://AntecControls.com)



## INTRODUCTION

### Safety Precautions

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 when drilling into walls or ceilings.
3. Use this unit only in the manner intended by the manufacturer.
4. Use proper procedure to disconnect power at service panel before performing wiring or maintenance on the product.
5. Protect flammable materials nearby when brazing. Use flame and heat protection barriers where needed. Always have a fire extinguisher ready.
6. The manufacturer assumes no responsibility for personal injury or property damage resulting from improper handling, installation, service or operation of the product.

### Caution to Contractors

This product is not designed to operate in a dusty construction environment. Use proper precautions to ensure the product is not exposed to construction dust. Use in these environments may result in excess wear on components and reduced product life.

### 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 Fume Hood Controller (FHC) when applied to pharmacy or laboratory spaces.

Typical applications for Pace™ include:

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

Some of its key features include:

- Flow Offset Control or Room Pressure Control
- High-speed Room Information Network (RIN) for communication between all room level controllers
- High-speed Sensor Information Network (SIN) for communication between room level devices and environmental sensors
- Ability to control or monitor up to 25 controllers in a room (including PACE and FHC)
- Ability to control Venturi Valves (VV), Venturi FX Valves (VFX), or Terminal Units (TU)
- BACnet MS/TP
- Flexible integration
- Monitoring/Control of room temperature, humidity, CO<sub>2</sub>, or VOC
- Easy-to-Use Setup Software

## INTRODUCTION

### Technical Specifications

<b>Environmental (Operating)</b>	32°F to 130°F (0°C To 55°C), 5% to 95% R.H. (Non-Condensing)
<b>Environmental (Storage)</b>	-22°F to 130°F (-30°C To 70°C), 0% to 95% R.H. (Non-Condensing)
<b>Input Power</b>	24 VAC, 50/60 Hz Single Phase, 75 VA Max (18 VA Excluding External Loads), Class 2 or LPS PELV
<b>Inputs</b>	2 Binary Inputs (Contact Closure), 4 Analog Inputs (0 To 10 VDC), 2 10k Type 2 Thermistors Inputs, Room Information Network, Sensor Information Network, 2 Pot Inputs 2 RS485 Network (FHN, BACnet) 1 Transducer (VV: 0-4 in.w.c., VFX: 0-2 in.w.c.)
<b>Outputs</b>	2 Active Binary Outputs (24 VAC, Max: 500 mA), 4 Analog Outputs (0 to 10 VDC, Max:10 mA)
<b>Indicators</b>	Status LED
<b>Communication Protocol</b>	BACnet MS/TP
<b>Housing</b>	UI 94 V-0, PC-ABS Plastic
<b>Rated Impulse Voltage</b>	330 V (after transformer)

#### NOTES:

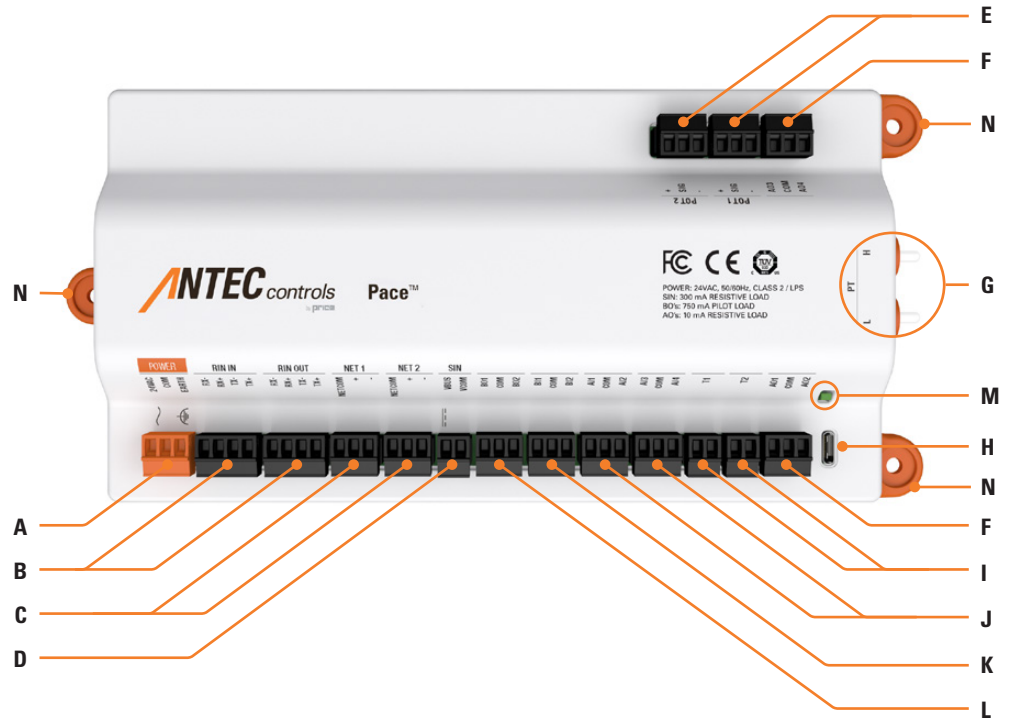
1. Upon power loss, the controller will reset and automatically resume control function
2. Not designed for use in industrial, farming, outdoor, or humid environments.
3. **CAUTION:** This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments
4. The controller is intended for 24 hour continuous operating time
5. Installation must be indoors, Pollution Degree 3

## INTRODUCTION

### Details

**FIGURE 1: PACE I/O AND MOUNTING DETAILS** ▼

- A Power Input
- B Room Information Network (RIN) Connections
- C Configurable RS485 Network Connections
- D Sensor Information Network (SIN) Connection
- E Potentiometer Inputs
- F Analog Outputs
- 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 Colour	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 loaded

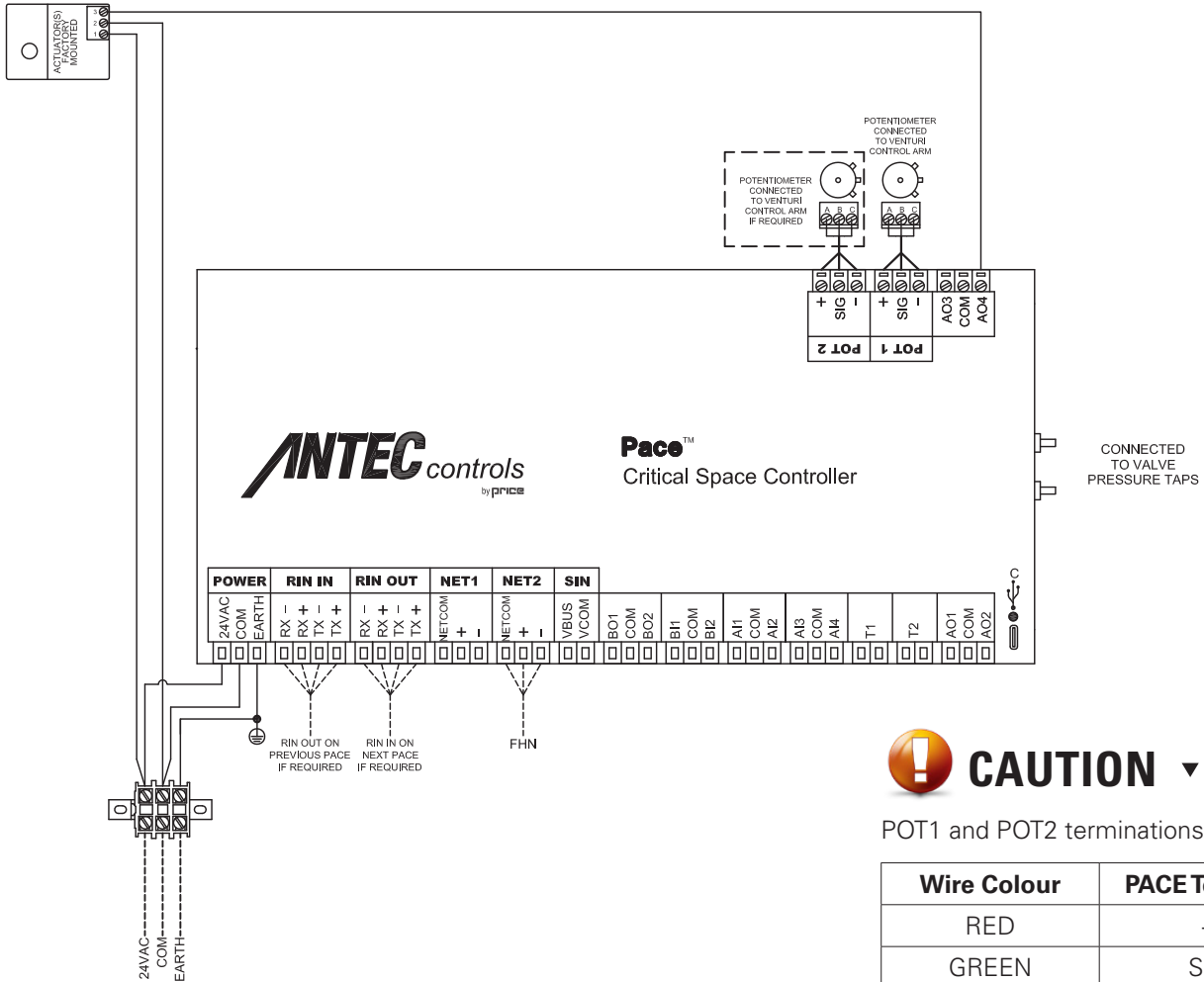
#### NOTES:

1. The controller is factory mounted in a metal enclosure using #8 x 5/16 in. 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)

## INTRODUCTION

### Wiring

**FIGURE 2: SAMPLE GENERAL EXHAUST VALVE WIRING DIAGRAM ▼**



#### NOTES:

1. For Typical Network Wiring Diagrams (RIN, SIN, FHN, and BACnet) see pages 4 through 8
2. All wire connections to the controller screw connection terminals must be between 16-26 AWG wire
3. All connections from external wires to the 24VAC/COM terminal block (not shown above) must be within 8-20 AWG wire
4. Earth ground to the enclosure is factory wired prior to shipping
5. Wiring shown above may not reflect those required for your project. Refer to your Antec Controls Project Submittals for project specific wiring diagrams.

### 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 Figure 3.

#### 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 4-wire network architecture (RX-, RX+, TX-, TX+) using a daisy-chain connection between each device on the network segment. Up to 25 RIN and FHN 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:

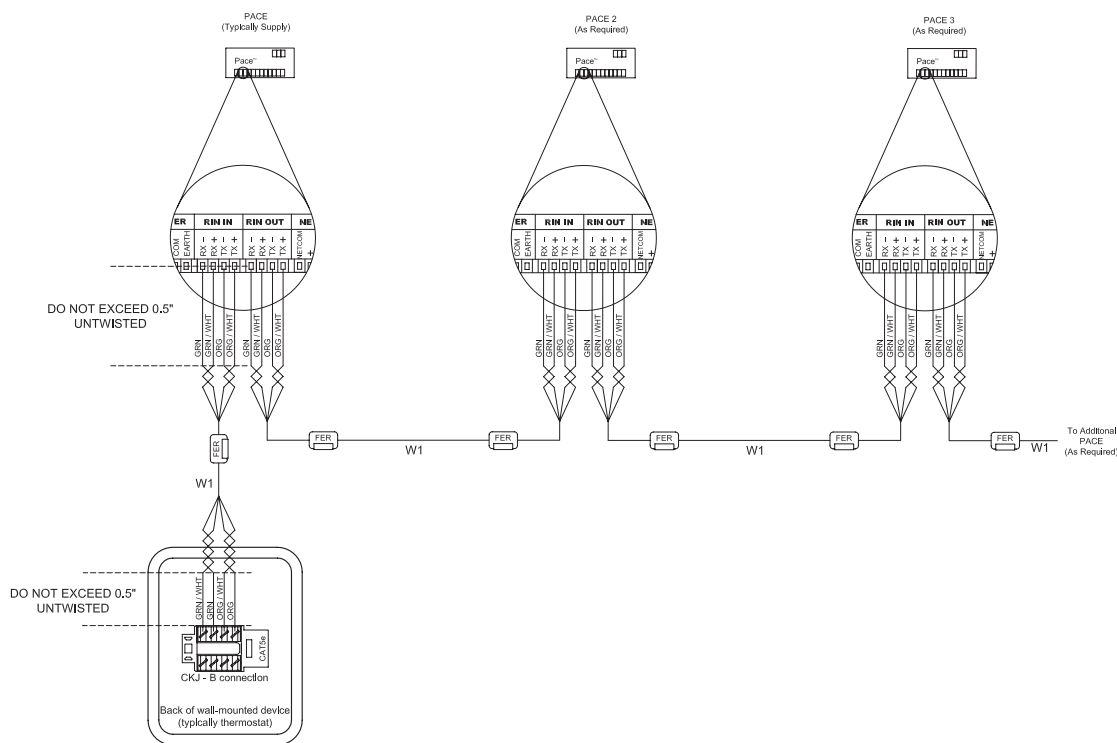
- Twisted pair wire (24 - 26 AWG)
- Characteristic Impedance: 100 – 130 ohms
- Capacitance between conductors: Less than 17pF per foot (52pF per metre)



The maximum wire length between each device on the network segment must be limited to 150 feet

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.

**FIGURE 3: TYPICAL RIN WIRING**



**NOTE:** Installer must use ferrite cable clamps on all RIN cables. Install clamps on the inside of the enclosure. Suggested clamp: 28A0593-0A2

## NETWORKING

### 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.

#### Physical Connection

SIN consists of a 4-wire network architecture (VBUS, VCOM, D+, and D-) using a daisy-chain connection between each device on the network segment.

Wiring requirements for VBUS and VCOM:

- 2-conductor wire (24 AWG)

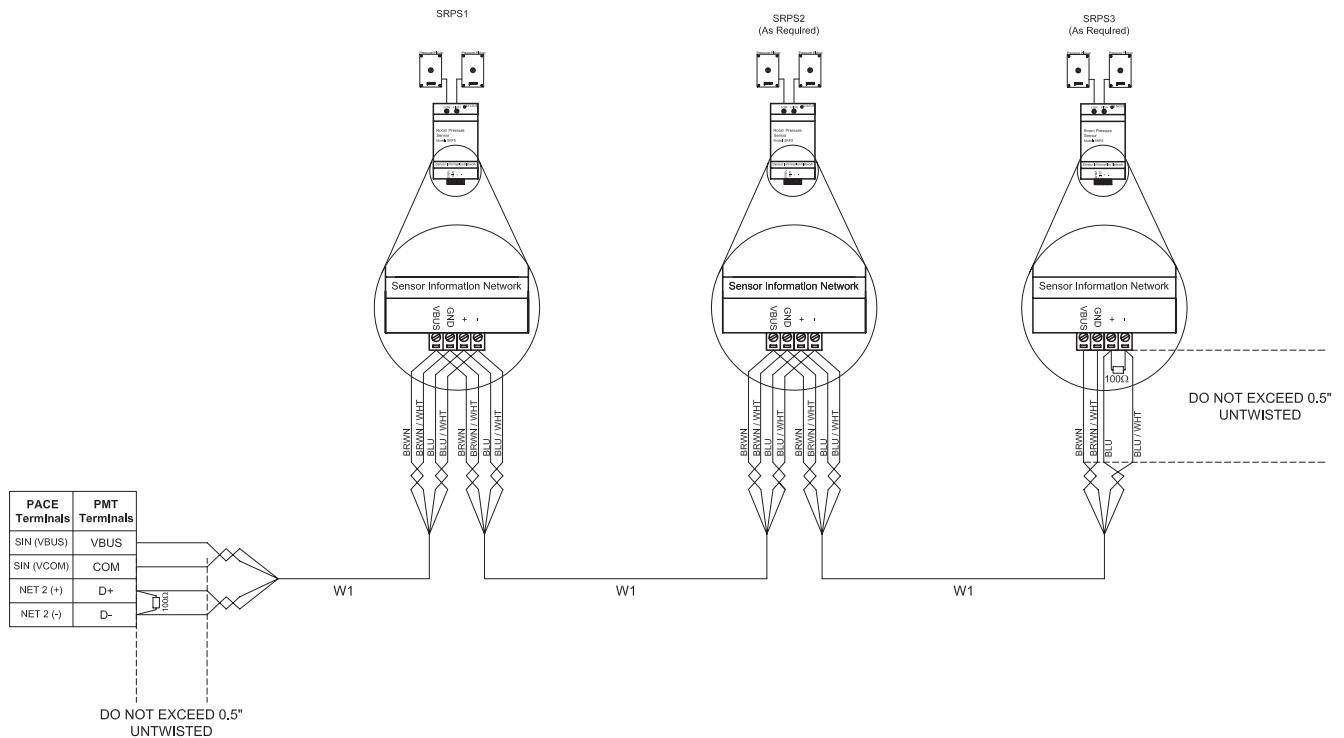
Wiring requirements for D+ and D-:

- Twisted pair wire (24 AWG)
- Characteristic impedance: 100 – 130 ohms
- Capacitance between conductors: Less than 30pF per foot (100pF per meter)



The maximum wire length between each device on the network segment must be limited to 50 feet

**FIGURE 4: TYPICAL SIN WIRING**



**NOTE:** Installer must use an 100 ohm resistor at both SIN end of line terminations of the “+” and “-” terminals.



## NETWORKING

### Fume Hood Network (FHN)

#### What is the Fume Hood Network?

The Fume Hood Network (FHN) allows each Fume Hood Controller (FHC) to communicate with Pace™. By transmitting this information at high speeds, Pace™ can ensure that the lab will remain negatively or positively pressurized even as the fume hoods are open and close.

A single Pace™ in the room will act as an access point to FHN. Typically, the room's exhaust valve will act as this connection, as shown below in Figure 5. Make sure to configure the Network Ports for the room correctly so Pace™ knows which port to use for the Fume Hood Network.

#### Network Addressing

When configuring Pace™, the user only needs to enter how many fume hoods are on the network.

On any Fume Hood Network:

- Maximum number of fume hoods = 16
- Addressing must begin at 1 and go sequentially up to 16
- No duplicate addresses

**NOTE:** Configure the fume hood address when starting up each individual FHC. See the FHC Manual for instructions on setting the address.

#### Physical Connection

FHN consists of a 3-wire network architecture (+, -, and NETCOM) using a daisy-chain connection between each device on the network segment.

While FHN is a 3-wire network, the Fume Hood Controller does utilize an RJ45 connection. When connecting FHN to Pace™, the installer is required to terminate the 3-wire connection from Pace™ into an RJ45 connection. It is crucial to use the correct wires when crimping the cable to avoid network communication errors.

FHN will utilize PIN 1, PIN 2, and PIN 8 for the +, -, and NETCOM signals respectively. Antec Controls recommends using the T568B Color Convention (shown below) for RJ45 connections to standardize the PINs that are used.

End of line termination can be enabled through the Fume Hood Controller on the last Fume Hood in the physical wiring. A 100 ohm resistor must be used for end of line termination where FHN is connected to Pace™.

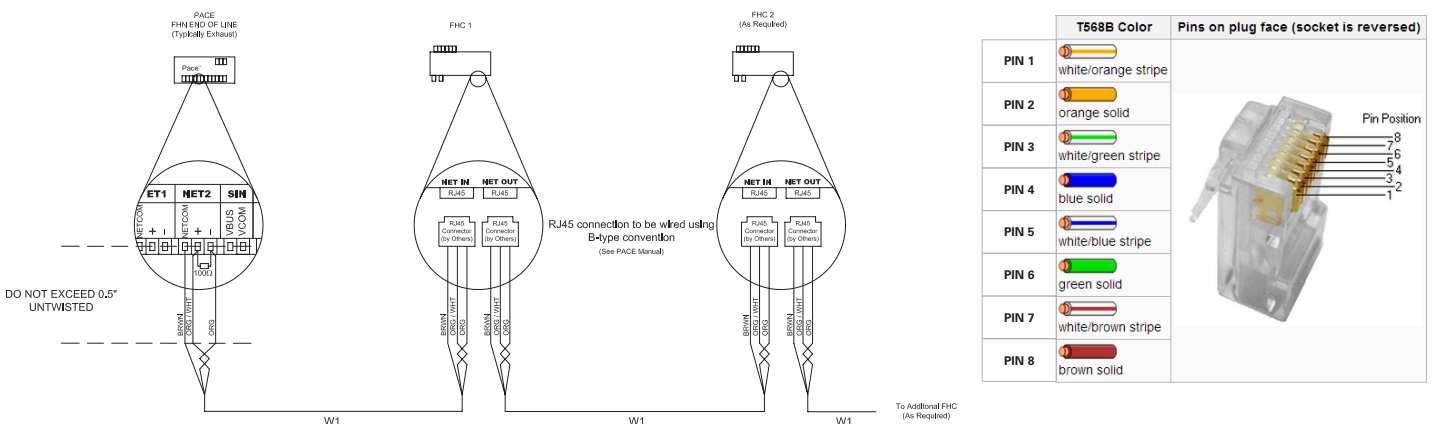
Wiring requirements:

- 3-conductor wire (24 - 26 AWG)
- Characteristic impedance: 100 ohms
- Capacitance between conductors: Less than 30pF per foot (100pF per meter)

### CAUTION ▼

The maximum wire length between each device on the network segment must be limited to 35 feet

**FIGURE 5: TYPICAL FHN WIRING ▼**



**NOTE:** Installer must use an 100 ohm resistor at the FHN end of line termination on Pace™.

## NETWORKING

### 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 are operating as expected and allows them to set up trends to monitor energy consumption, safety, and any alarms that occur.

A single Pace™ in the room will act as the access point to BACnet. Typically, the primary supply valve will provide this connection. All of the room's information transmits through this one Pace™ to the network. Make sure to configure the Network Ports for the room correctly so Pace™ knows which port to use for BACnet.

#### BACnet Points

See the Pace™ – Critical Space Controller product submittal at AntecControls.com for the BACnet points list.

#### 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

#### Physical Connection

BACnet consists of a 3-wire network architecture. Daisy chain the +, -, and COM connections of all devices on the network segment as shown in Figure 6.

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 - network terminals. Remove the termination resistor or disable any network terminations on all devices when adding devices to an existing network segment.

Wiring requirements:

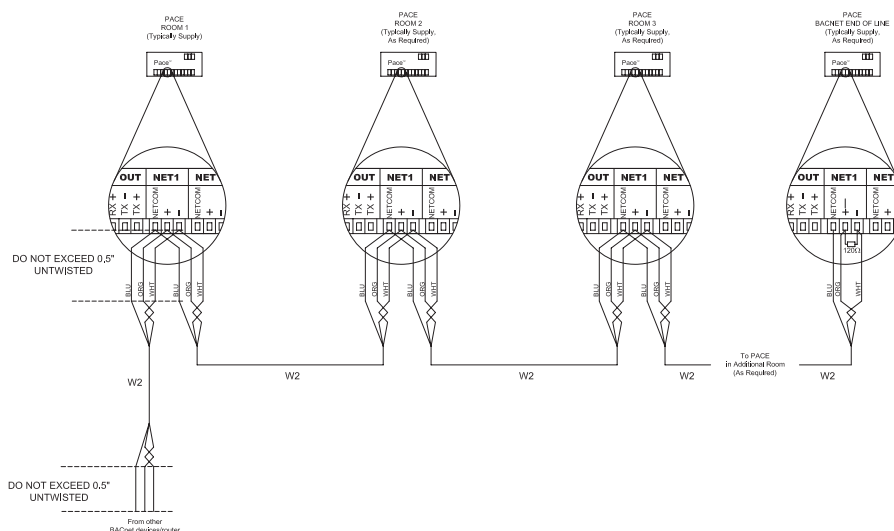
- Twisted pair
- Shielded (either foil or braided shields)
- Characteristic impedance: 100 – 130 ohms
- Capacitance between conductors: less than 30pF per foot (100pF per meter)



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.

For system health and reliability, total MS/TP segment length should be limited to 1050 ft and a maximum of 32 devices.

**FIGURE 6: TYPICAL BACNET WIRING**



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

## 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 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)

### CAUTION ▾

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 CO<sub>2</sub>. 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



## ROOM ACCESSORIES

### 4. 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



### 5. Room Temperature Sensor with Display, Pushbutton Setpoint Adjustment and Relative Humidity Sensor

Model: ES-RM-LCD-BTN-RH

- 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



### 6. 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



### 7. 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
  - Setpoint cannot be adjusted locally in the room – eliminates unauthorized tampering of the room temperature setpoint
  - Setpoint changes occur through BACnet



## ROOM ACCESSORIES

### 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 in. 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 (see Figure 3).
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. Allen wrench until it is flush with the bottom of the cover.

For drywall installation:

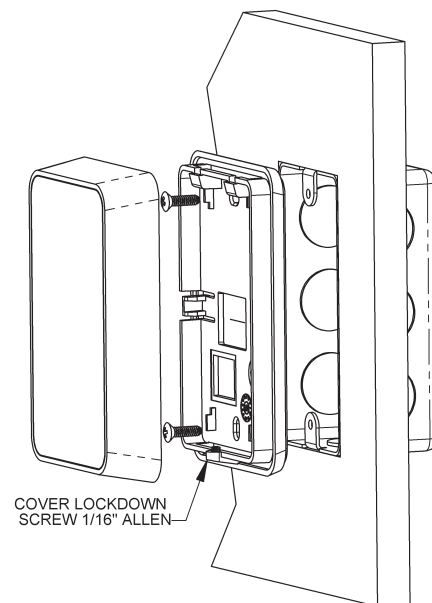
1. Place the base plate against the wall where the thermostat is to be mounted.
2. Using a pencil, mark out the two mounting holes, the area where the wires will come through the wall, and, if required, the area required for the keystone jack.
3. Drill two 3/16 in. holes for the drywall anchors. DO NOT punch the holes or the anchors will not hold.
4. Drill one 1/2 in. hole for the wires to pass through.
5. If applicable, drill one 1 in. hole for the keystone jack.
6. Pull the wire through the holes in the wall, leaving roughly six inches 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 in. 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 (see Figure 3).
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. Allen wrench until it is flush with the bottom of the cover.

### CAUTION ▼

Before beginning, screw the 1/16 in. 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.

Ensure that space is left under the thermostat so the set screw can be accessed.

**FIGURE 7: 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.

## ROOM ACCESSORIES

### 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

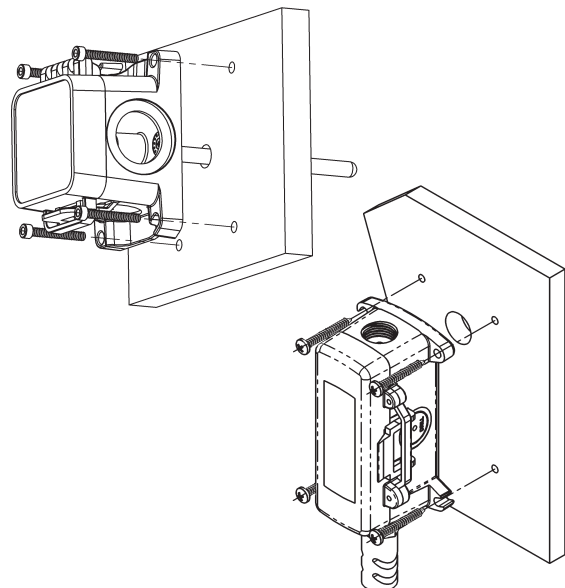


#### Installation

1. Place the sensor in the middle of the duct away from temperature stratified air, coils, or humidifiers. For best readings, install the probe 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.

**FIGURE 8: DUCT ENVIRONMENTAL SENSOR INSTALLATION ▼**



## ROOM ACCESSORIES

### 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.

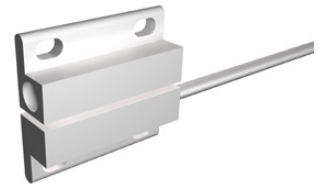
#### Overview

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 1.0 in.
2. Secure the sensor without the wire connection to the door using two #6 screws.
3. Secure the sensor with the wire connection to the doorframe using two #6 screws.
4. Connect the sensor wires to the wire from Pace™.

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.
2. Drill a 3/4 in. 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 in. 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.

## ROOM ACCESSORIES

### 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 SIND product submittal on AntecControls.com for Specifications and Dimensions.

#### 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



#### Installation

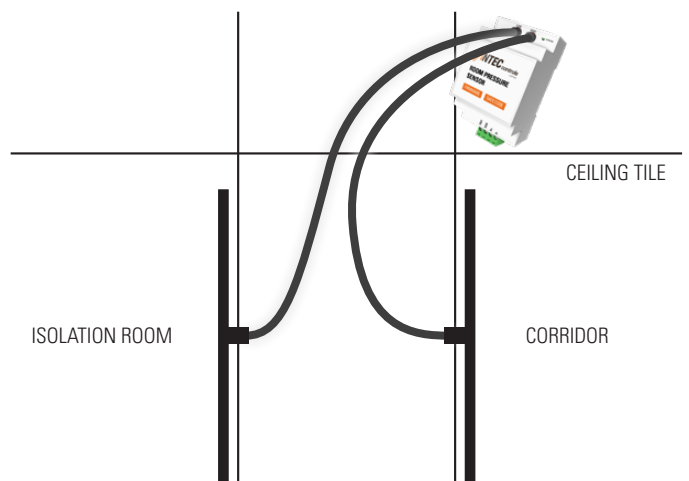
1. The sensor comes with 24 in. tubing to connect to the pressure plates. Ensure the installation location of the sensor is within 24 in. of the pressure plates.
2. Install the sensor in the plenum space above either the measured room or the reference space. Antec Controls recommends mounting the sensor in an enclosure to protect from damage.

**NOTE:** The sensor should be easily accessible for wiring and setup. For ease of access, above the door is typically the best installation location.

To install the pressure plates directly in drywall or ceiling tile:

3. Cut a 1 in. hole for the tubing in the required location for the port in the measured room.
4. Use the pressure plate to mark the holes for the anchors. Drill two 3/16 in. holes and install the provided anchors.
5. Push the 24 in. black tubing onto the pickup on the back of the sensor plate, ensuring the tubing passes the barb on the pickup.
6. Run the tubing through the 1 in. hole in the wall/ceiling tile and mount the plate to the surface using screws provided.
7. Connect the tubing from the measured space to the high-pressure port on the sensor.

FIGURE 9: SRPS INSTALLATION ▼





## ROOM ACCESSORIES

- Repeat steps 3 thru 6 for the pressure port in the reference space.
- Connect the tubing from the reference space to the low-pressure port on the sensor.

To install the pressure plates to a junction box:

- Knockout a hole in the junction box for the tubing to pass through in the measured room.
- Push the 24 in. black tubing onto the pickup on the back of the sensor plate, ensuring the tubing passes the barb on the pickup.
- Run the tubing through the junction box or conduit.
- Using the provided screws, mount the sensor plate to the junction box.
- Connect the tubing from the measured space to the high-pressure port on the sensor.
- Repeat steps 10 thru 13 for the pressure port in the reference space.
- Connect the tubing from the reference space to the low-pressure port on the sensor.

### NOTES:

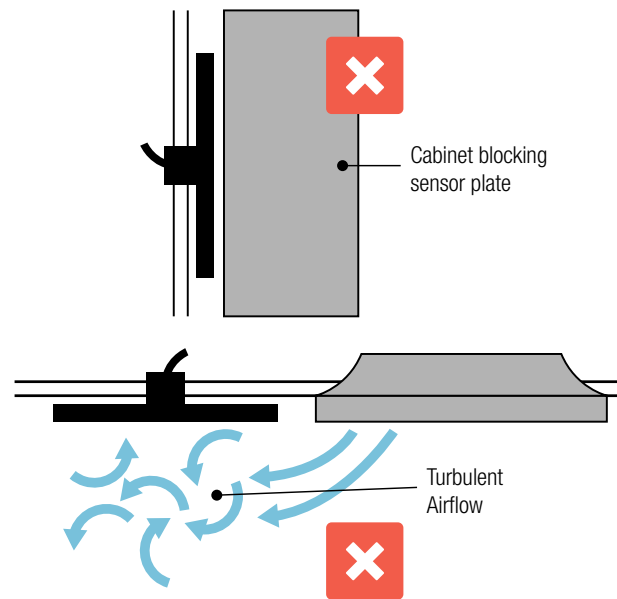
- Repeat all installation steps for additional SIND, if measuring pressure in multiple rooms.
- Make note of whether the tubing installation is backwards. If the reference space tubing is connected to the high-pressure port, reverse the sensor's reading during setup.

### CAUTION ▾

Install the pressure plates where there are no obstructions that can block its ability to measure the room pressure accurately.

Install the pressure plates away from diffusers. Turbulent airflow passing over the pressure plate can cause unstable readings.

**FIGURE 10: INCORRECT SRPS LOCATION ▾**



## ROOM ACCESSORIES

### 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 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. to 0-2.0 in.w.c.
  - 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.

#### Options

##### 1. BACnet MS/TP to IP Router

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



## ROOM ACCESSORIES

### 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

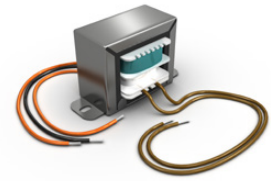
- Features:
- Mounted power bank
  - Primary: 480/277/240/115VAC

---

##### 4. 500 VA Transformer

Model: PT-500

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



## TROUBLESHOOTING

If technical support is required, please contact [FieldSupport@AntecControls.com](mailto:FieldSupport@AntecControls.com).









Product Improvement is a continuing endeavour at Antec Controls by Price. Therefore, specifications are subject to change without notice.

Consult your Sales Representative for current specifications or more detailed information. Not all products may be available in all geographic areas. All goods described in this document are warranted as described in the Limited Warranty.

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

® Antec Controls by Price is a registered trademark of Price Industries Limited.  
© 2018. Printed in Canada. v100