

PRTU System Startup Guide

BACNET ADDRESSING – ZONE CONTROLLERS

Each zone controller (PIC or Prodigy) requires a unique MAC address, and all devices on a single BACnet daisy chain must share a common device instance.

Setting the MAC Address:

To set the MAC address and the Device Instance, press and hold down the MENU button for 5 seconds, and then enter the PASSCODE: DOWN, UP, UP, DOWN (using the arrows). Scroll down to SERVICE MENU BACNET, and hit the MENU button to enter.

It is recommended to change the MAC address through Software rather than Hardware. To do so, press the MENU button, and while flashing hit the UP arrow button to change to Software. From here, use the UP arrow button to increase the MAC address to the desired address. Push the MENU button to save the address.

Setting the Device Instance:

The Device Instance is the building instance and acts like the area code for that segment. For example, RTU-1 will have a device instance of 100, RTU-2 will have a device instance of 200 and so on. Any devices under RTU-2 will need to have a Dev. Inst. of 200 so that it can communicate with RTU-2.

NOTE: The last 2 digits of the Dev. Inst. is the MAC address. Eg. 0, 000, 202 would be Device Instance 200 with a MAC address of 02 under RTU-2.

SETUP WIZARD - PRTU SYSTEM STAT

When the PRTU gets powered up for the first time with 24 VAC from the rooftop unit, the screen will show WELCOME TO THE SETUP WIZARD. Use the MENU button to advance through these prompts. This is where you set the Date, Time, Day, Stages of Heating and Cooling, Strategy and the number of zones, etc. The controller will reset when complete.

NOTE: You cannot go back to a previous screen. If a step was entered incorrectly, refer to the PRTU I&S manual to view full menu options within the service menu.

Once the Setup Wizard is complete and a Polling Strategy is set, it could take up to 10 minutes for the PRTU to poll the associated zones and start controlling the network. A successful network will be indicated when you push the UP or DOWN arrow button on the PRTU stat and the display shows NETWORKED, USE ZONE THERMOSTATS. This indicates that the PRTU is using the zone thermostats to control the rooftop unit and not the local setpoint at the System Controller thermostat.

Refer to the PRTU I&S manual for further instructions and menus, which is available on www.priceindustries.com – type “PRTU” into the search bar. For product support, please call **204.654.5613** and select **Option 4**.

1. Price Rooftop Unit Controller (PRTU)

Polls the zone controllers it feeds over BACnet and flips into heating, cooling or neutral modes depending on the averaged demand of the zones. **Mount the PRTU indoors.** Mount the thermostat in a common area such as a hallway or manager's office as opposed to a mechanical or IT room.

Max cable run between PRTU and PRTU thermostat = 70 feet

See reverse side for more detailed wiring schematic.

MAC – 101

Device Instance – 100

2. Price Pressure Control Valve (PCV) Bypass Damper

Controls system static pressure by measuring the average pressure in the supply duct and bypassing excess air into the return duct.

Mount the static pressure probe 2/3 of the way down the longest supply duct run and pipe back to the high (red) side of the transducer. Set the MAC address to 80 so that it will not be part of the polling scheme.

MAC – 80

Device Instance – 180

TECH TIP: Use 18 AWG minimum wire for wiring from the RTU down to the PRTU.

3. Price Intelligent Controller (PIC) VAV Zone Controller

Provides individual zone control by modulating a damper to control airflow into the space. Each PIC will also communicate the zone's room temperature and setpoint data back to the PRTU for polling.

4. Prodigy™ VAV Diffuser

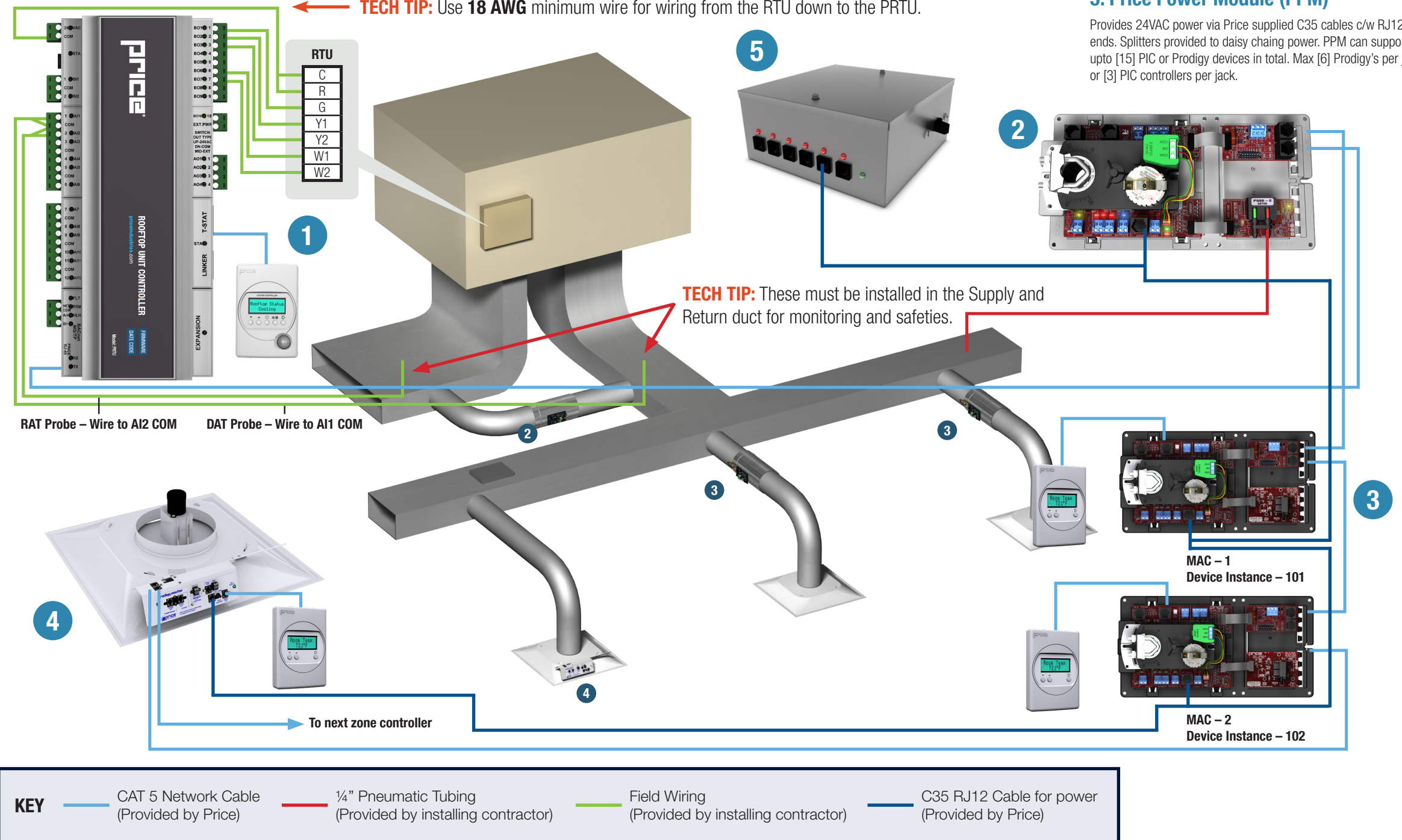
Provides VAV zone control for individual space by modulating a damper in the diffuser to control airflow into the space. Each Prodigy will also communicate the zone's room temperature and setpoint data back to the PRTU for polling.

MAC – 3

Device Instance – 103

5. Price Power Module (PPM)

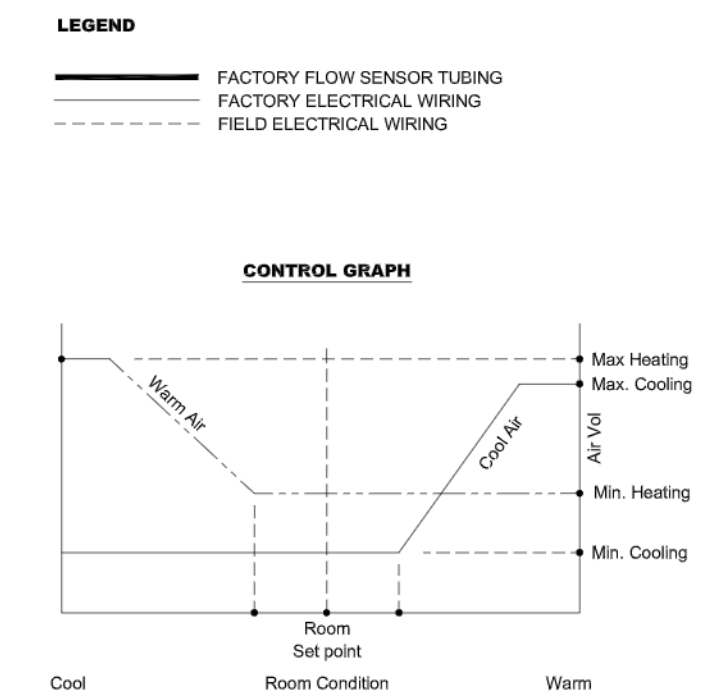
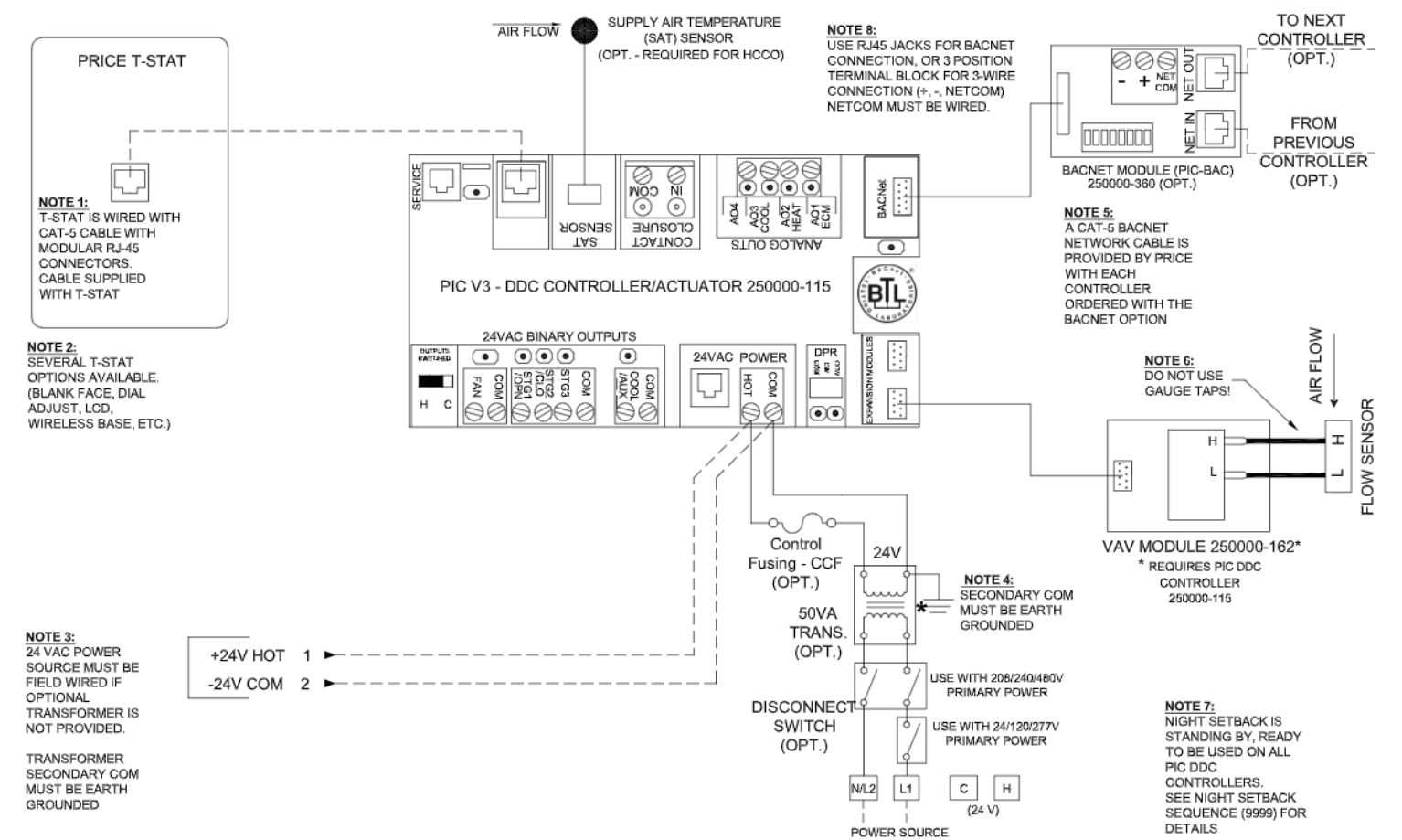
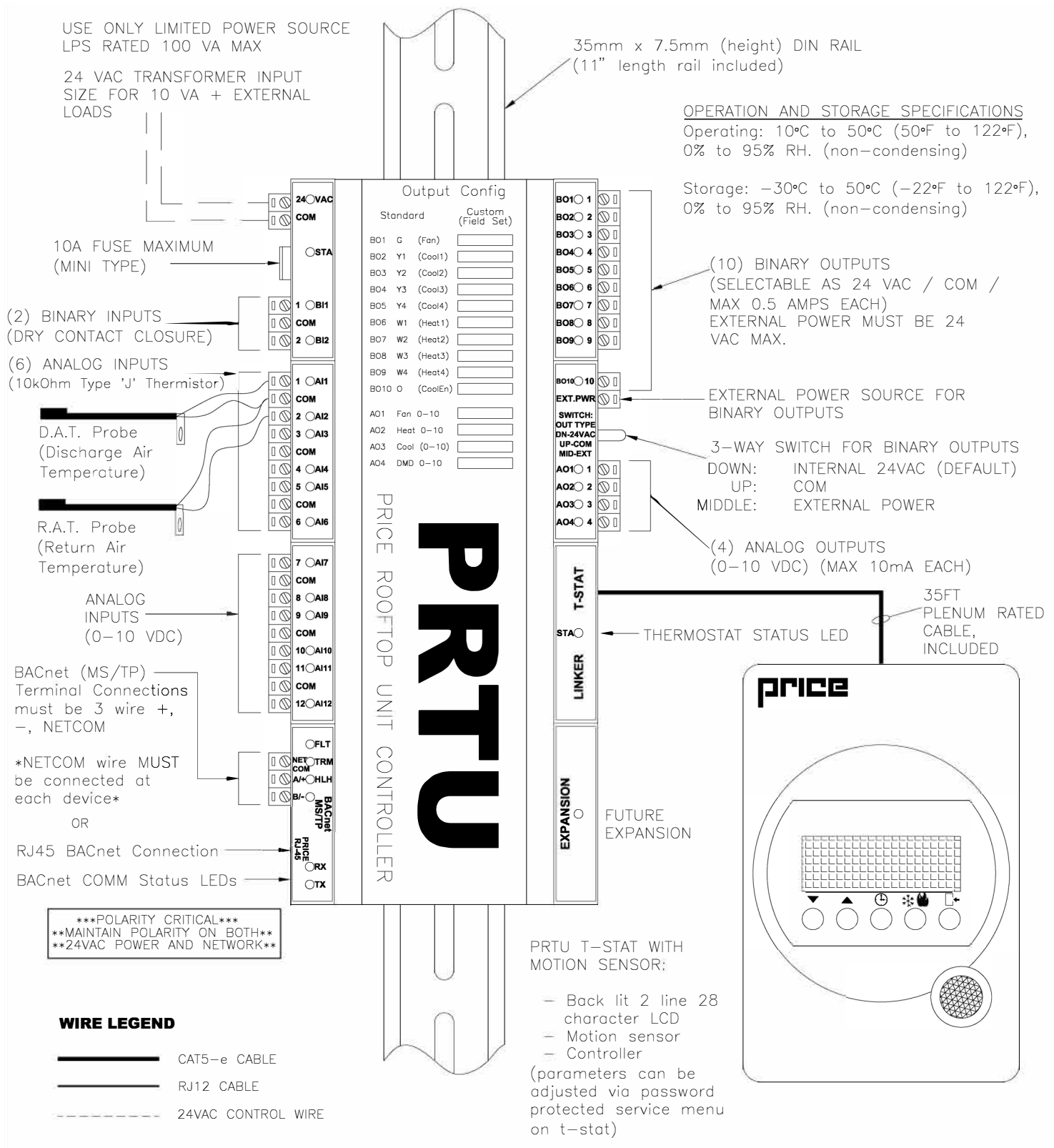
Provides 24VAC power via Price supplied C35 cables c/w RJ12 ends. Splitters provided to daisy chain power. PPM can support upto [15] PIC or Prodigy devices in total. Max [6] Prodigy's per jack or [3] PIC controllers per jack.



NOTE: It is **extremely important** that correct 24 Volt power polarity is observed on **all** devices and that the 24 VAC common is grounded at each 24 VAC transformer. If this is not observed, BACnet connectivity will fail.

NOTE: If Price supplied CAT 5 cables are not being used for BACnet network wiring, ALL BACnet MS/TP connections **must** be made with 3 wires. NET COM wire must be connected to ensure reliable BACnet operation.





Sequence of Operation -- Heat/cool changeover OR cooling only Pressure Independent

On power up the damper will calibrate closed for 2 minutes.

If no SAT sensor is present, the controller assumes Cool supply air at all times

Cool supply air: On an increase in space temperature the controller regulates the actuator to open the VAV damper and increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the airflow is maintained at its pre-selected maximum setting.

On a decrease in space temperature the controller regulates the actuator to close the VAV damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the airflow is maintained at the pre-selected minimum setting.

Warm supply air: On a decrease in space temperature the controller regulates the actuator to open the VAV damper and increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the airflow is maintained at its pre-selected maximum setting.

On an increase in space temperature the controller regulates the actuator to close the VAV damper and reduce the flow of warm air. If the space temperature increases above the heating proportional band, the airflow is maintained at the pre-selected minimum setting.

ALL METRIC DIMENSIONS () ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.