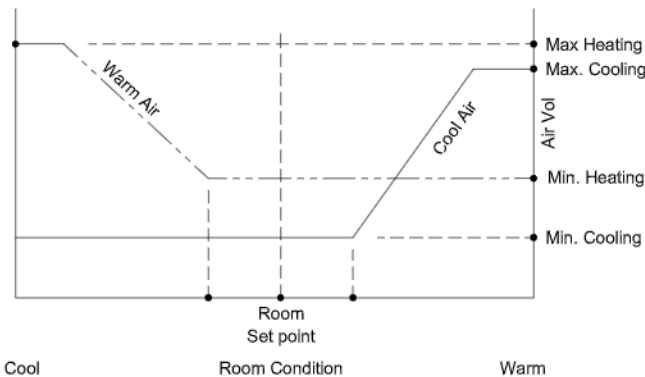


LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



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.

PROJECT:

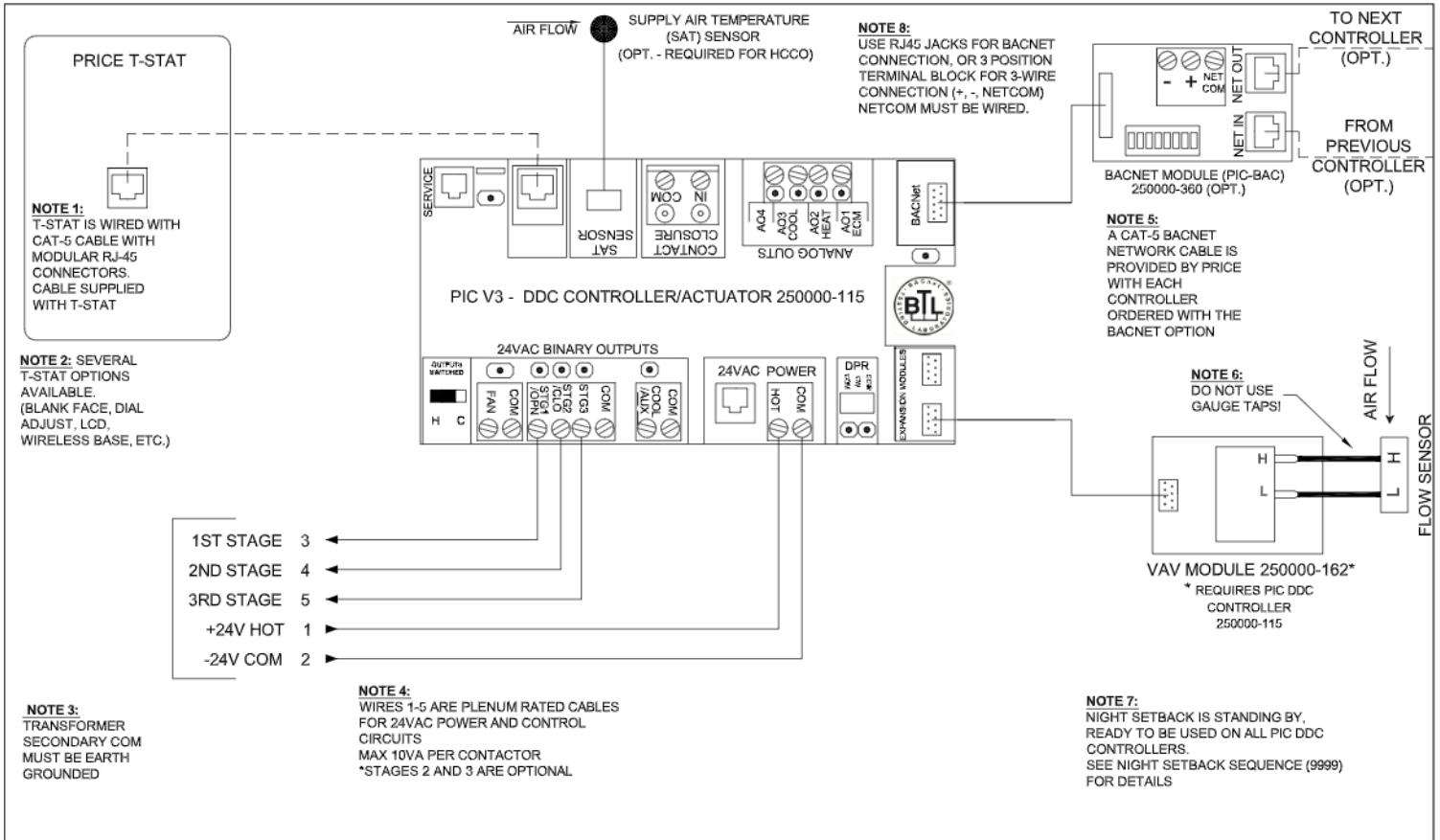
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

<i>BE MB</i>	SINGLE DUCT PIC DDC
249530	PRESSURE INDEPENDENT HEAT/COOL CHANGEOVER OR COOLING ONLY NO LOCAL REHEAT CONTROL
2017/06/21	

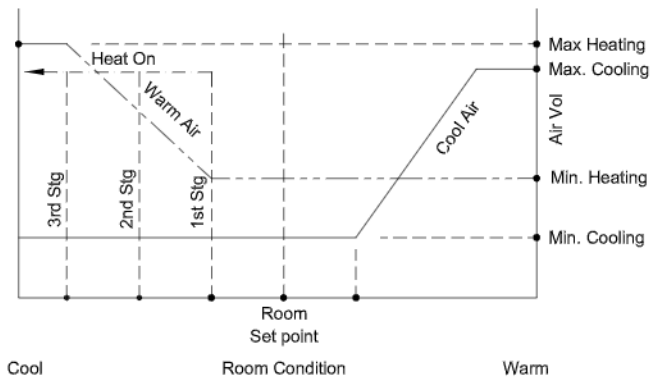


Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



**Sequence of Operation -- Heat/cool changeover OR cooling
With up to 3 stage binary reheat - 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.

Reheat Operation: On a decrease in space temperature into the heating proportional band, the 1st stage binary 24VAC reheat output will energize. Upon further decreases, the 2nd then 3rd stages of reheat (if used) will energize.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE[®]

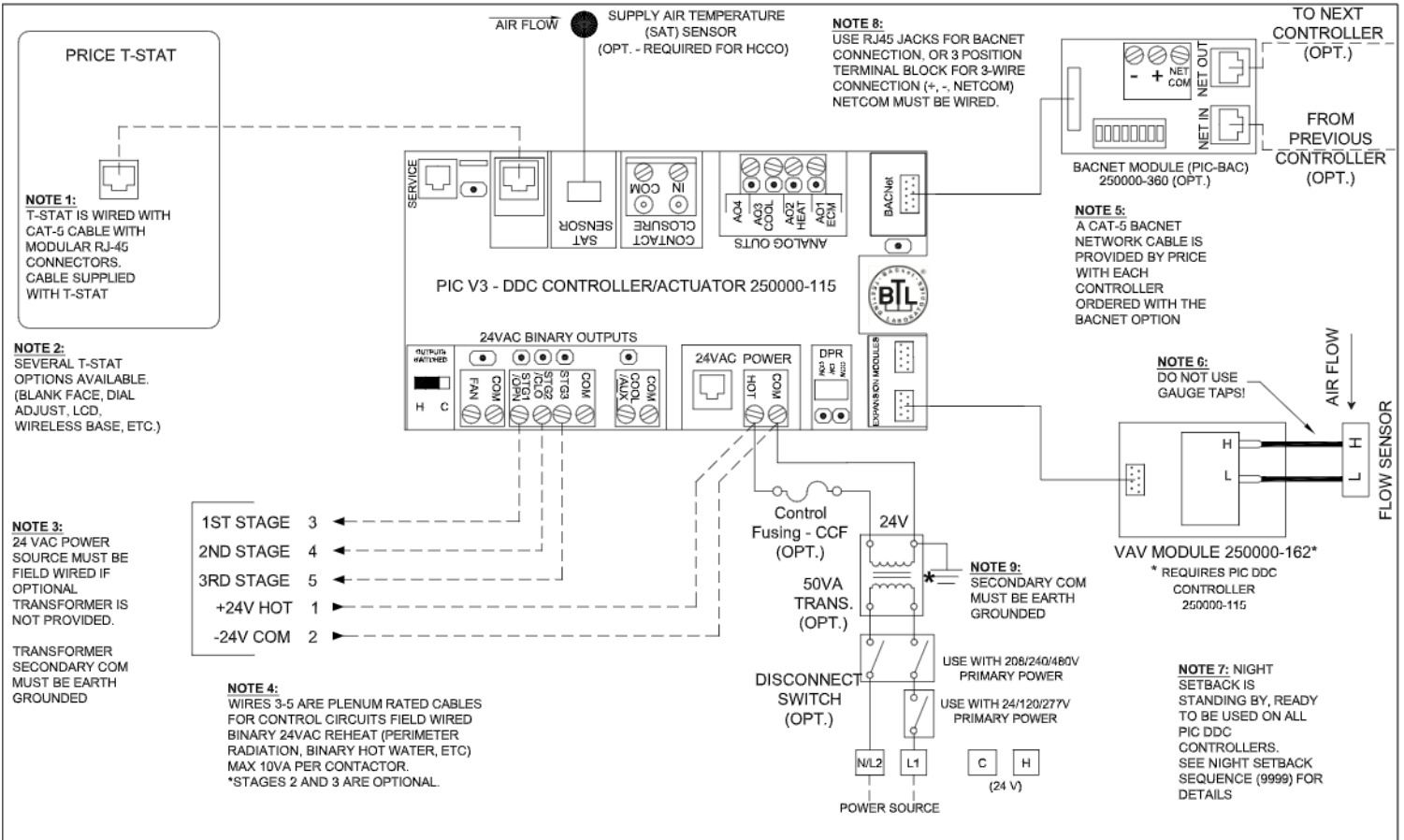
BE MB

**SINGLE DUCT
PIC DDC**

PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH UP TO 3 STG BINARY REHEAT
FACTORY WIRED

249531

2017/06/23

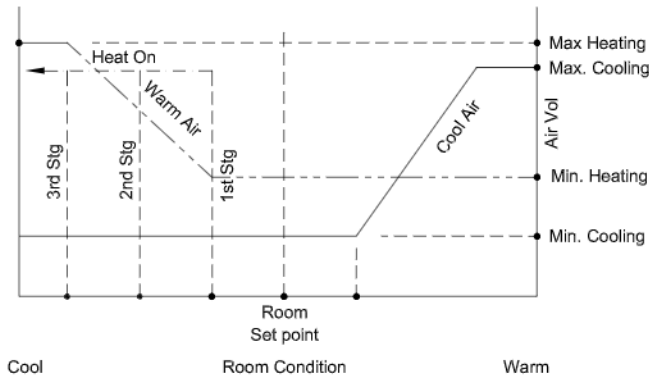


Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- - - - - FIELD ELECTRICAL WIRING

CONTROL GRAPH



**Sequence of Operation -- Heat/cool changeover OR cooling
With up to 3 stage binary reheat - 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.

Reheat Operation: On a decrease in space temperature into the heating proportional band, the 1st stage binary 24VAC reheat output will energize. Upon further decreases, the 2nd then 3rd stages of reheat (if used) will energize.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE[®]

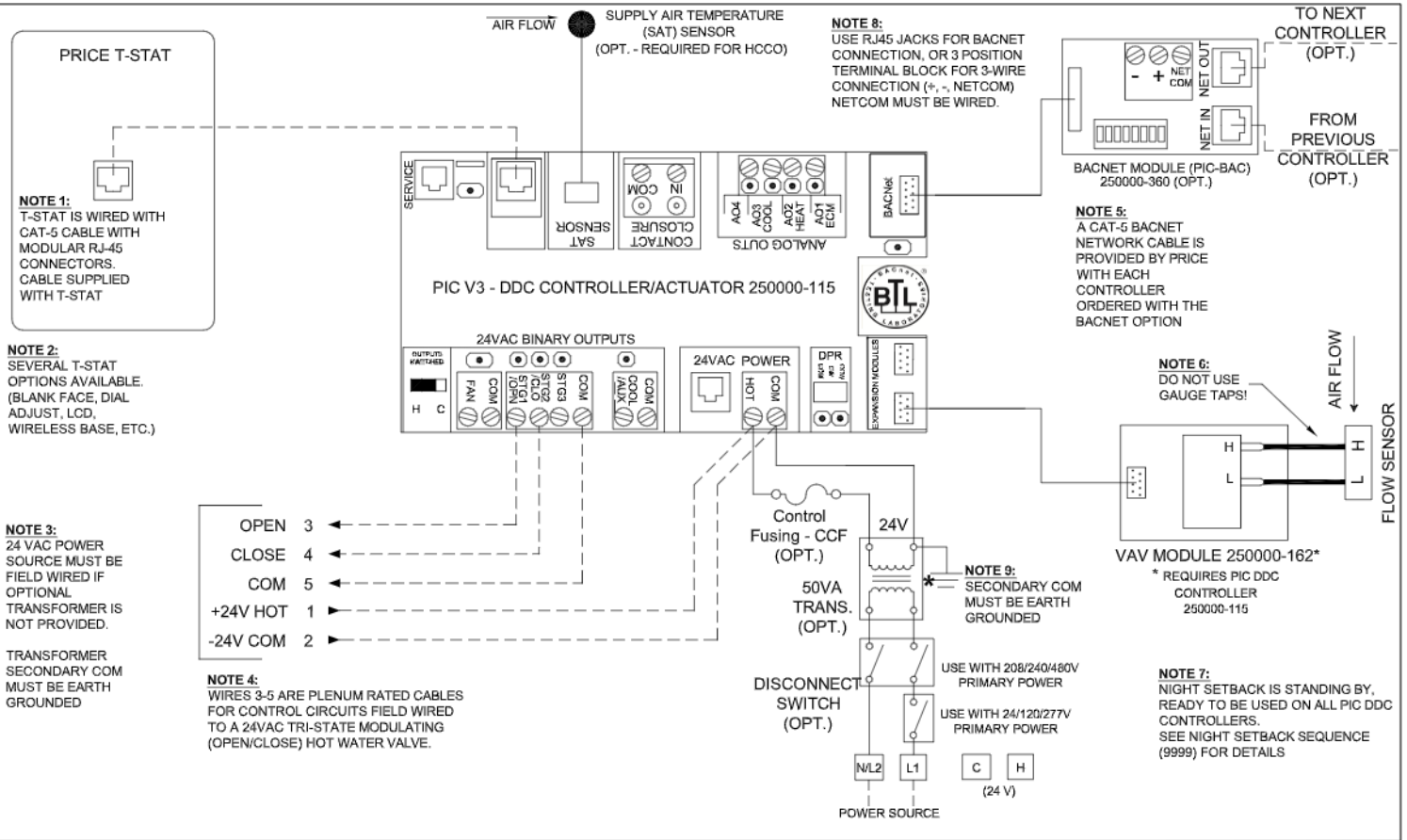
BE MB

**SINGLE DUCT
PIC DDC**

PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH UP TO 3 STG BINARY REHEAT
FIELD WIRED

249532

2017/06/23



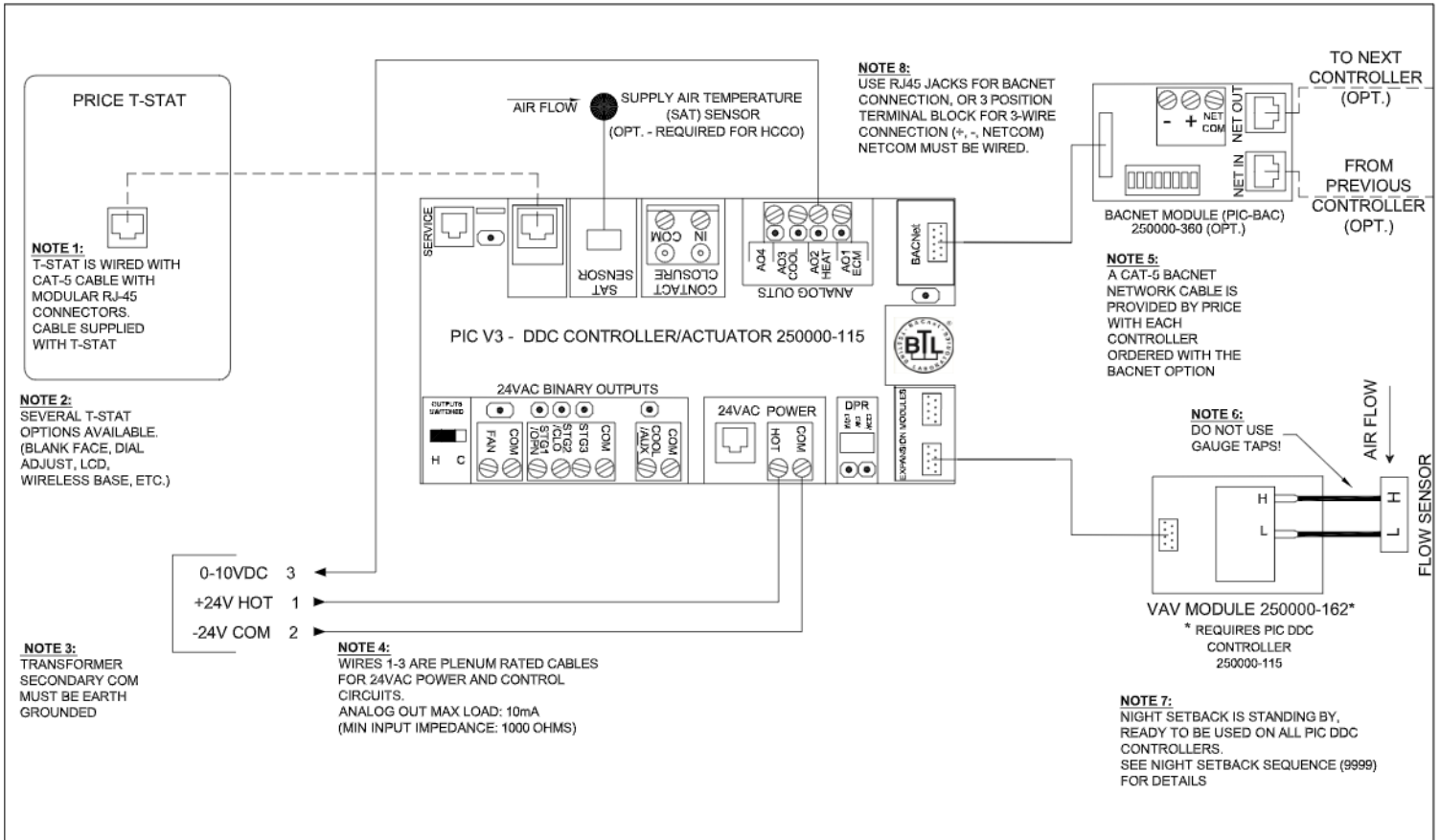
Sequence of Operation -- Heat/cool changeover OR cooling With Tri-State modulating HW reheat - Pressure Independent
 On power up the damper will calibrate closed for 2 minutes.
 If no SAT sensor is present, the controller assumes Cool supply air at all times

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.
Reheat Operation: On a decrease in space temperature, the heating valve is modulated to increase heat proportionally to the room demand.

PROJECT:		
ENGINEER:		
CUSTOMER:		
SUBMITTAL DATE:	SPEC. SYMBOL:	

BE MB
249533
2017/06/23

**SINGLE DUCT
PIC DDC**
 PRESSURE INDEPENDENT
 HEAT/COOL C/O OR COOLING
 WITH TRI-STATE MODULATING
 HOT WATER REHEAT, FIELD WIRED



Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

Sequence of Operation -- Heat/cool changeover OR cooling With Analog modulating reheat - 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.

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

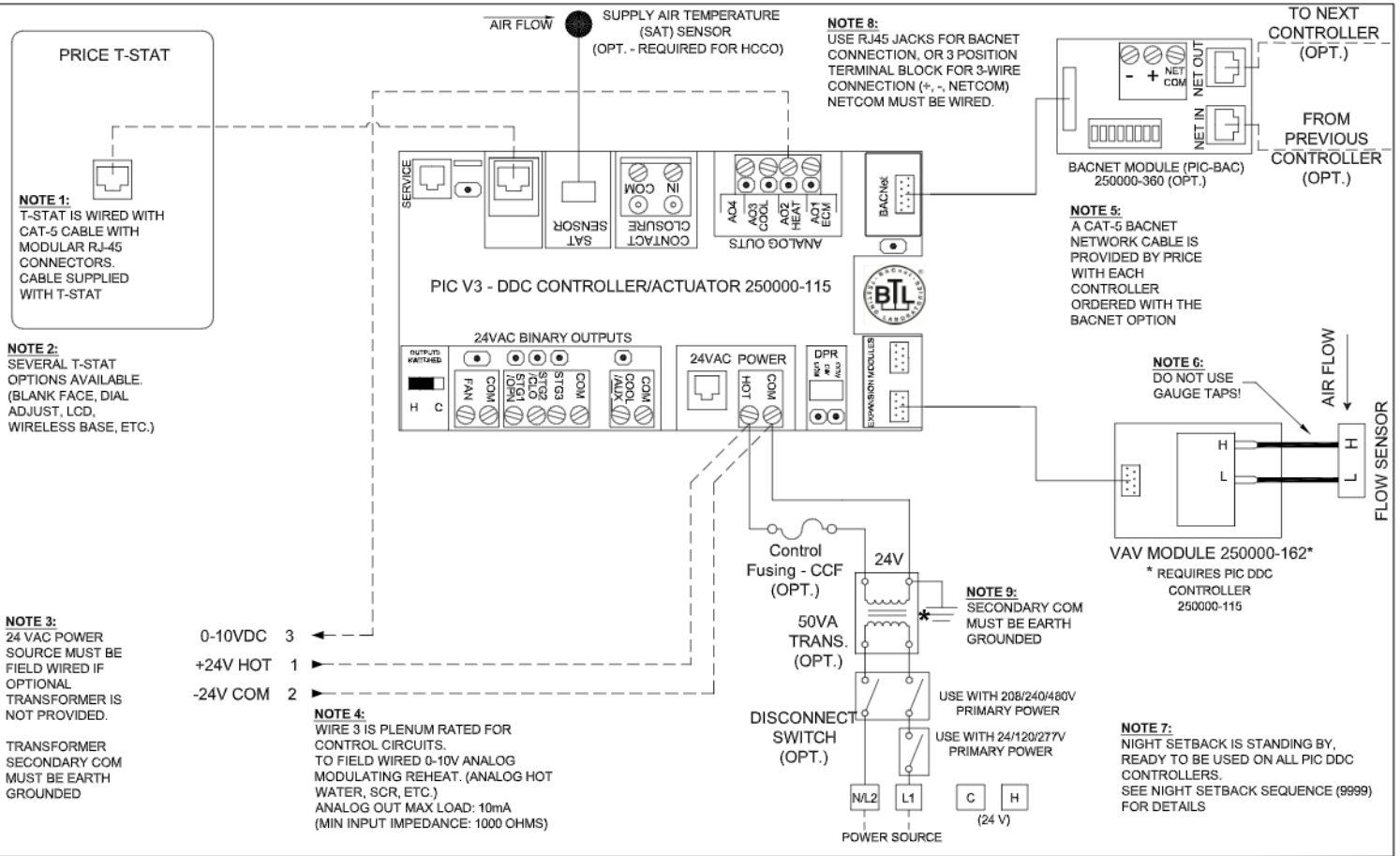
PRICE[®]

**SINGLE DUCT
PIC DDC**

PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH ANALOG ELECTRIC HEAT
FACTORY WIRED

249534

2017/06/23

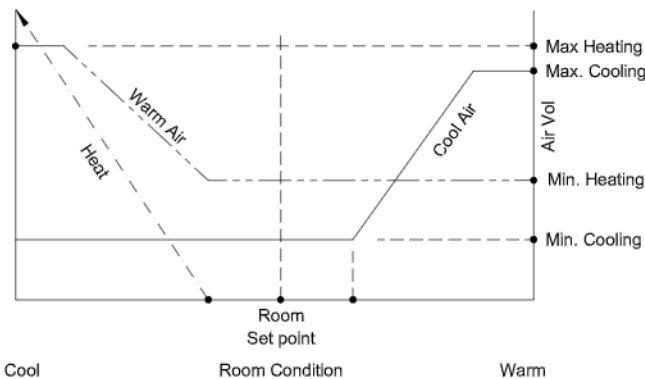


Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



**Sequence of Operation -- Heat/cool changeover OR cooling
With Analog modulating reheat - 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.

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE[®]

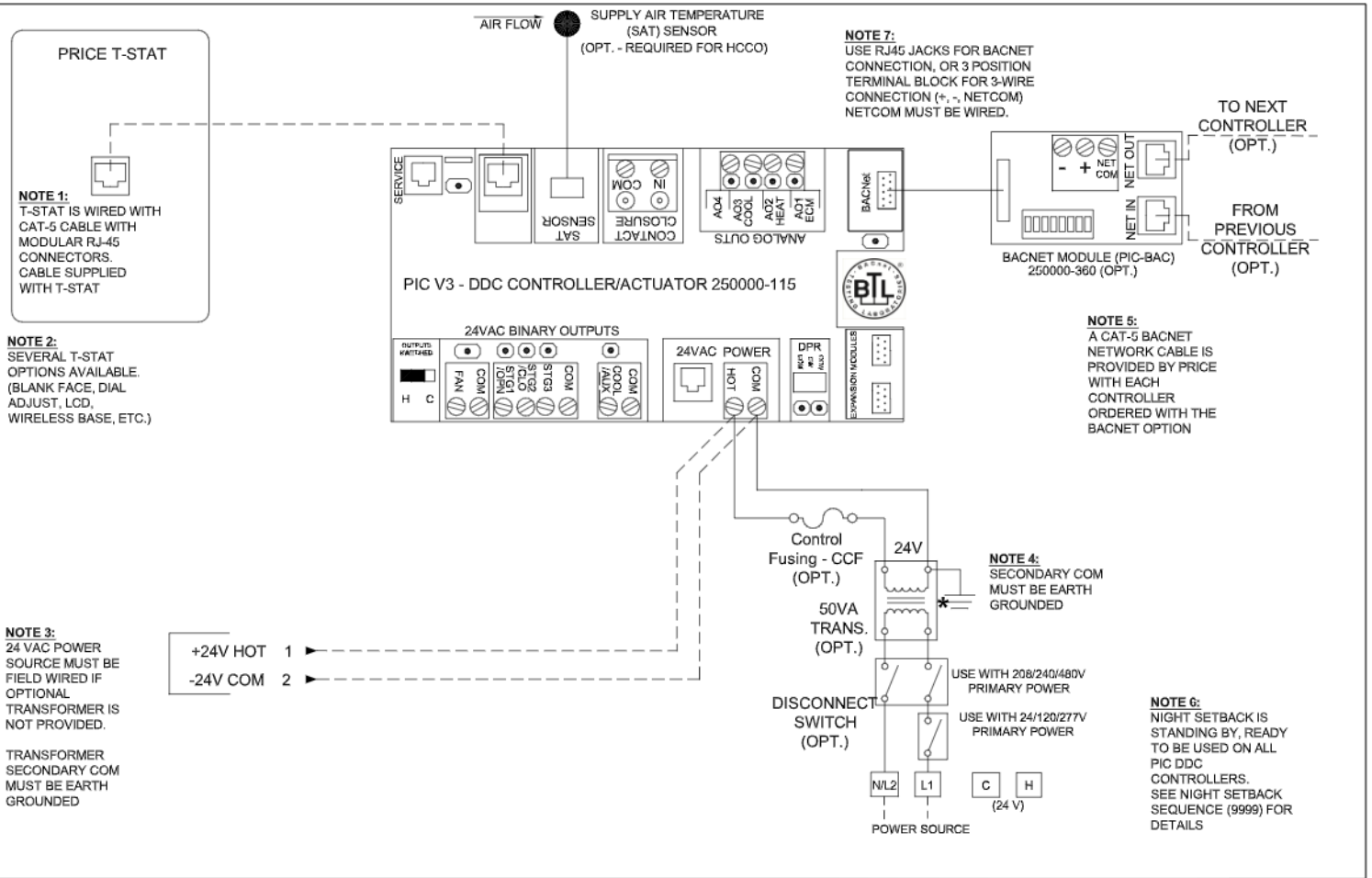
BE MB

**SINGLE DUCT
PIC DDC**

PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH ANALOG HEAT
FIELD WIRED

249535

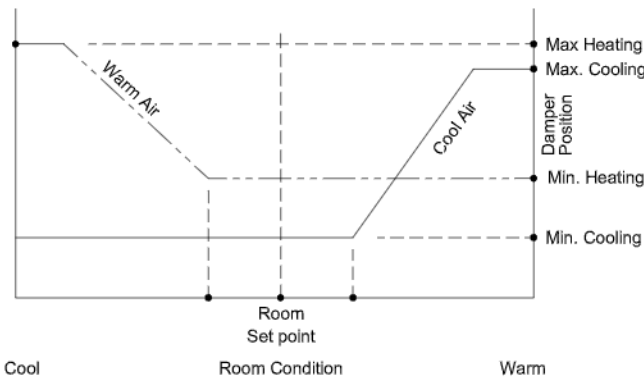
2017/06/23



LEGEND

- FACTORY ELECTRICAL WIRING
- - - - - FIELD ELECTRICAL WIRING

CONTROL GRAPH



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

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 air damper and increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

On a decrease in space temperature the controller regulates the actuator to close the air damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the damper position (%) 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 air damper and increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

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


PROJECT:

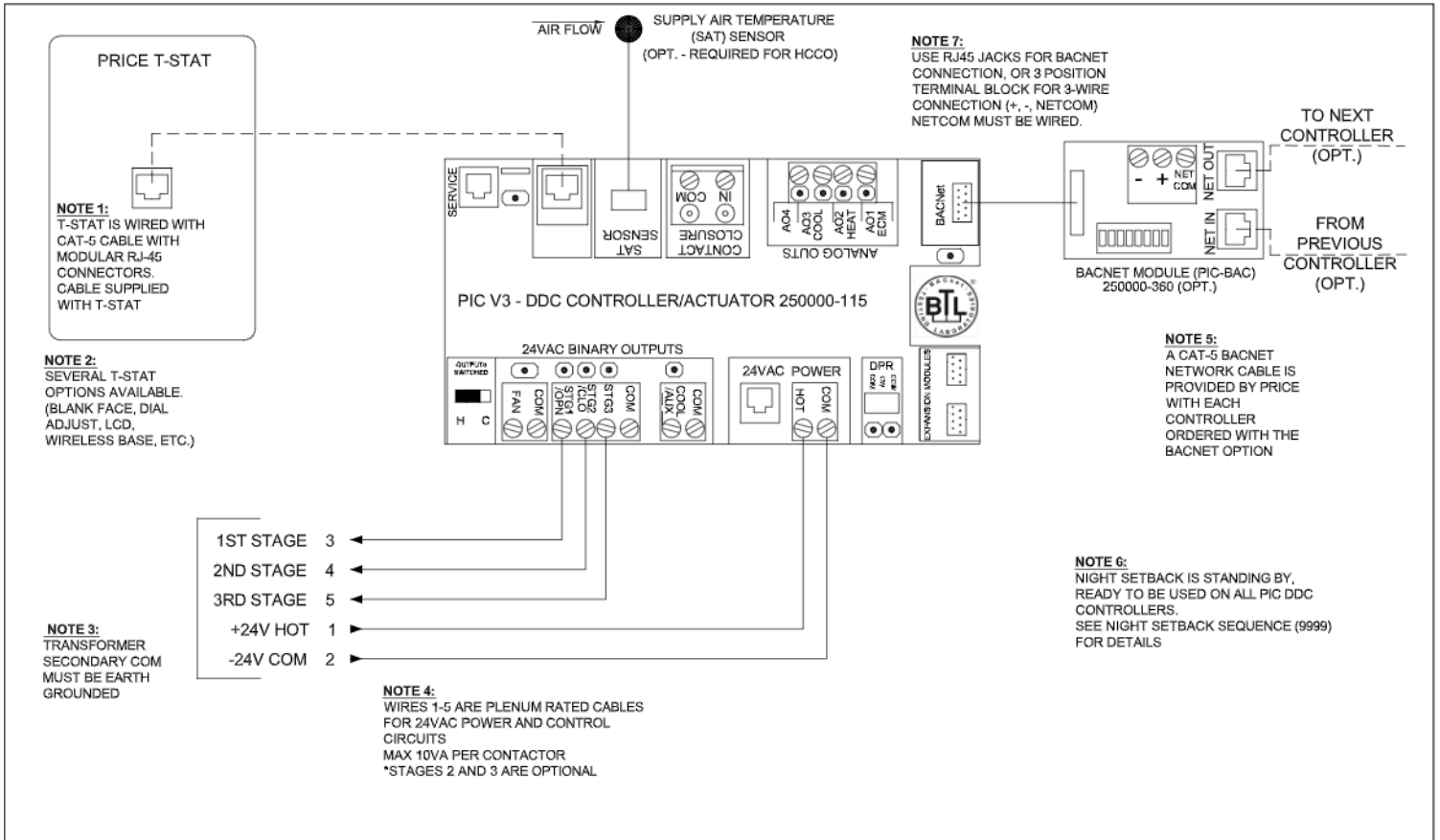
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
	SINGLE DUCT PIC DDC PRESSURE DEPENDENT HEAT/COOL CHANGEOVER OR COOLING ONLY NO LOCAL REHEAT CONTROL
249536	
2017/06/23	

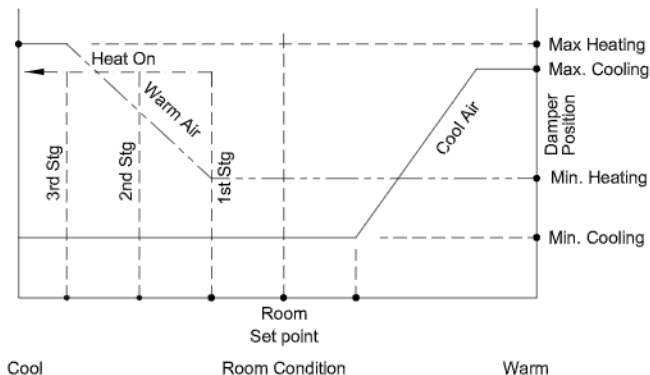


Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

LEGEND

- FACTORY ELECTRICAL WIRING
- - - - - FIELD ELECTRICAL WIRING

CONTROL GRAPH



**Sequence of Operation -- Heat/cool changeover OR cooling
With up to 3 stage binary reheat - Pressure Dependent**

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 air damper and increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

On a decrease in space temperature the controller regulates the actuator to close the air damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the damper position (%) 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 air damper and increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

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

Reheat Operation: On a decrease in space temperature into the heating proportional band, the 1st stage binary 24VAC reheat output will energize. Upon further decreases, the 2nd then 3rd stages of reheat (if used) will energize.

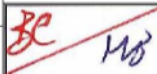
PROJECT:

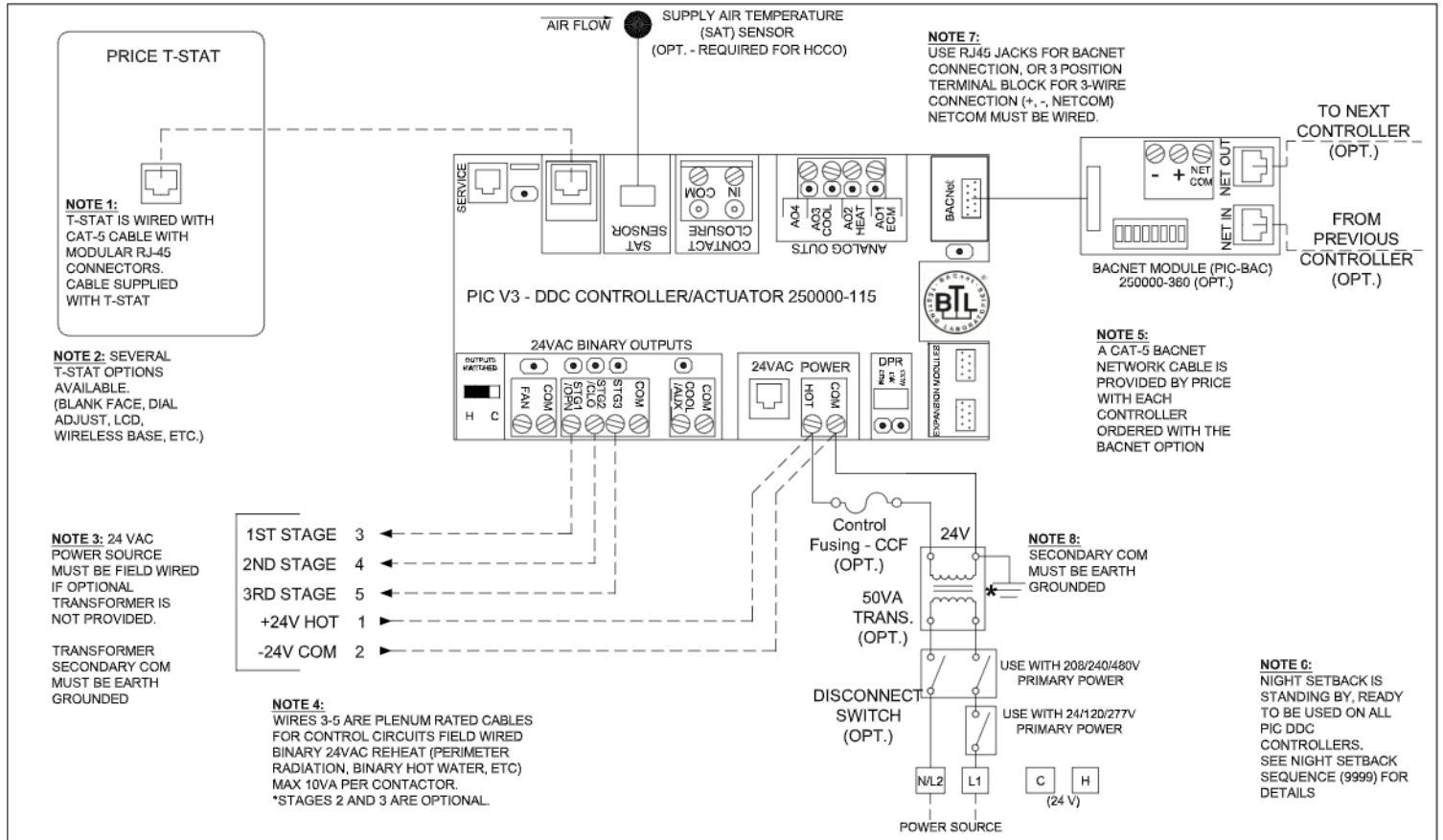
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
	SINGLE DUCT PIC DDC PRESSURE DEPENDENT HEAT/COOL C/O OR COOLING WITH UP TO 3 STG BINARY REHEAT FACTORY WIRED
249537	
2017/06/23	



Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

Sequence of Operation -- Heat/cool changeover OR cooling With up to 3 stage binary reheat - Pressure Dependent

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 air damper and increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

On a decrease in space temperature the controller regulates the actuator to close the air damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the damper position (%) 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 air damper and increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

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

Reheat Operation: On a decrease in space temperature into the heating proportional band, the 1st stage binary 24VAC reheat output will energize. Upon further decreases, the 2nd then 3rd stages of reheat (if used) will energize.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

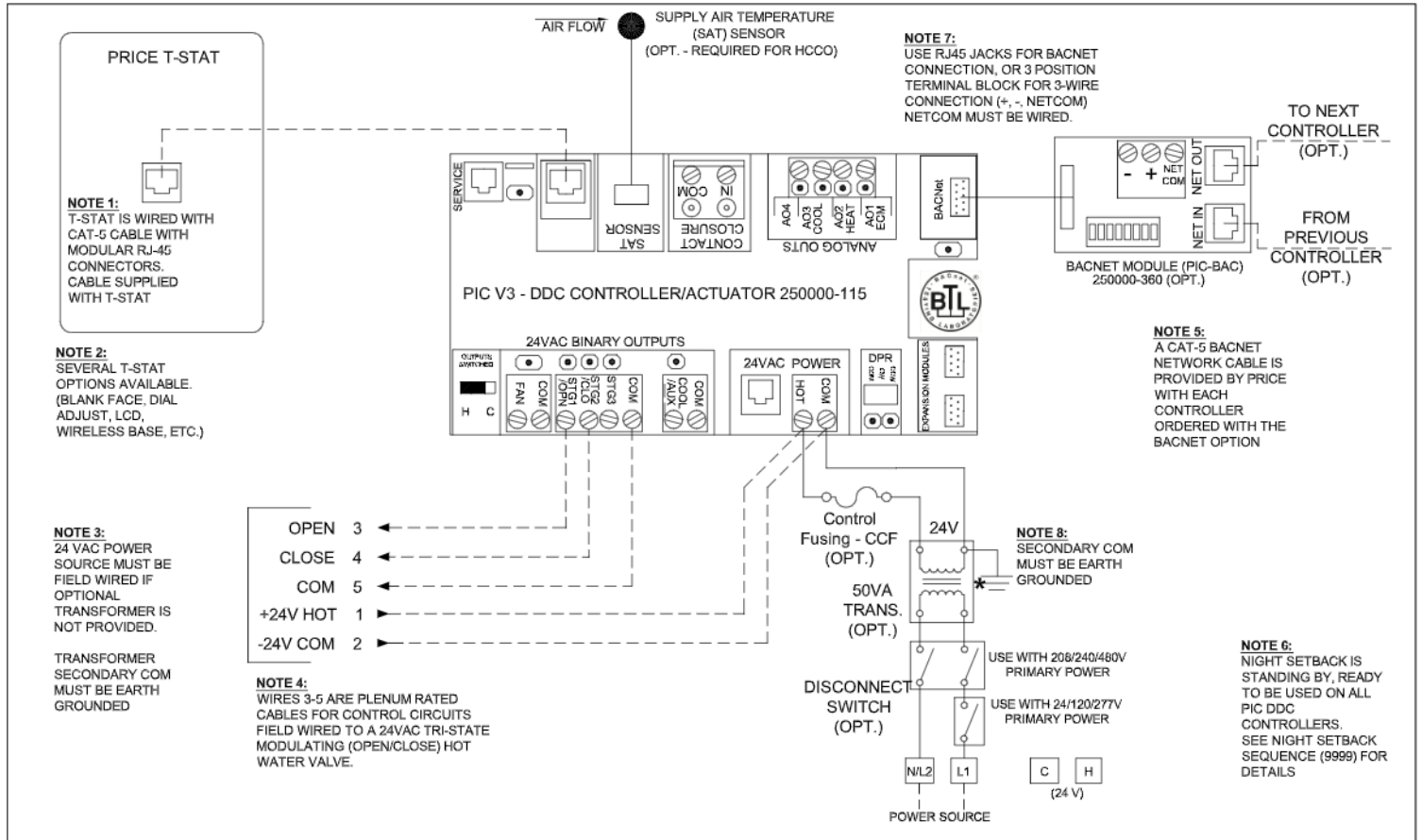
PRICE[®]

**SINGLE DUCT
PIC DDC**

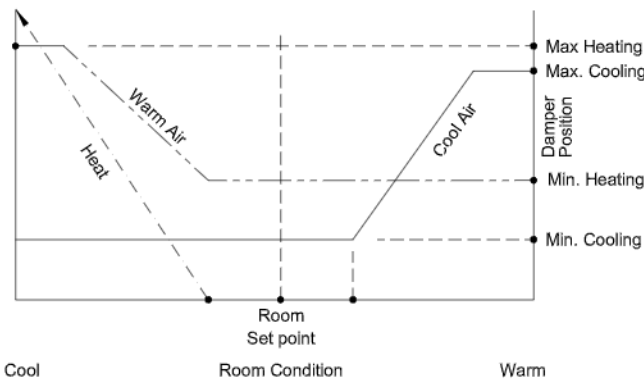
PRESSURE DEPENDENT
HEAT/COOL C/O OR COOLING
WITH UP TO 3 STG BINARY REHEAT
FIELD WIRED

249538

2017/06/23



CONTROL GRAPH



Sequence of Operation -- Heat/cool changeover OR cooling With Tri-State modulating HW reheat - Pressure Dependent

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 air damper and increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

On a decrease in space temperature the controller regulates the actuator to close the air damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the damper position (%) 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 air damper and increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

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

Reheat Operation: On a decrease in space temperature, the heating valve is modulated to increase heat proportionally to the room demand.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

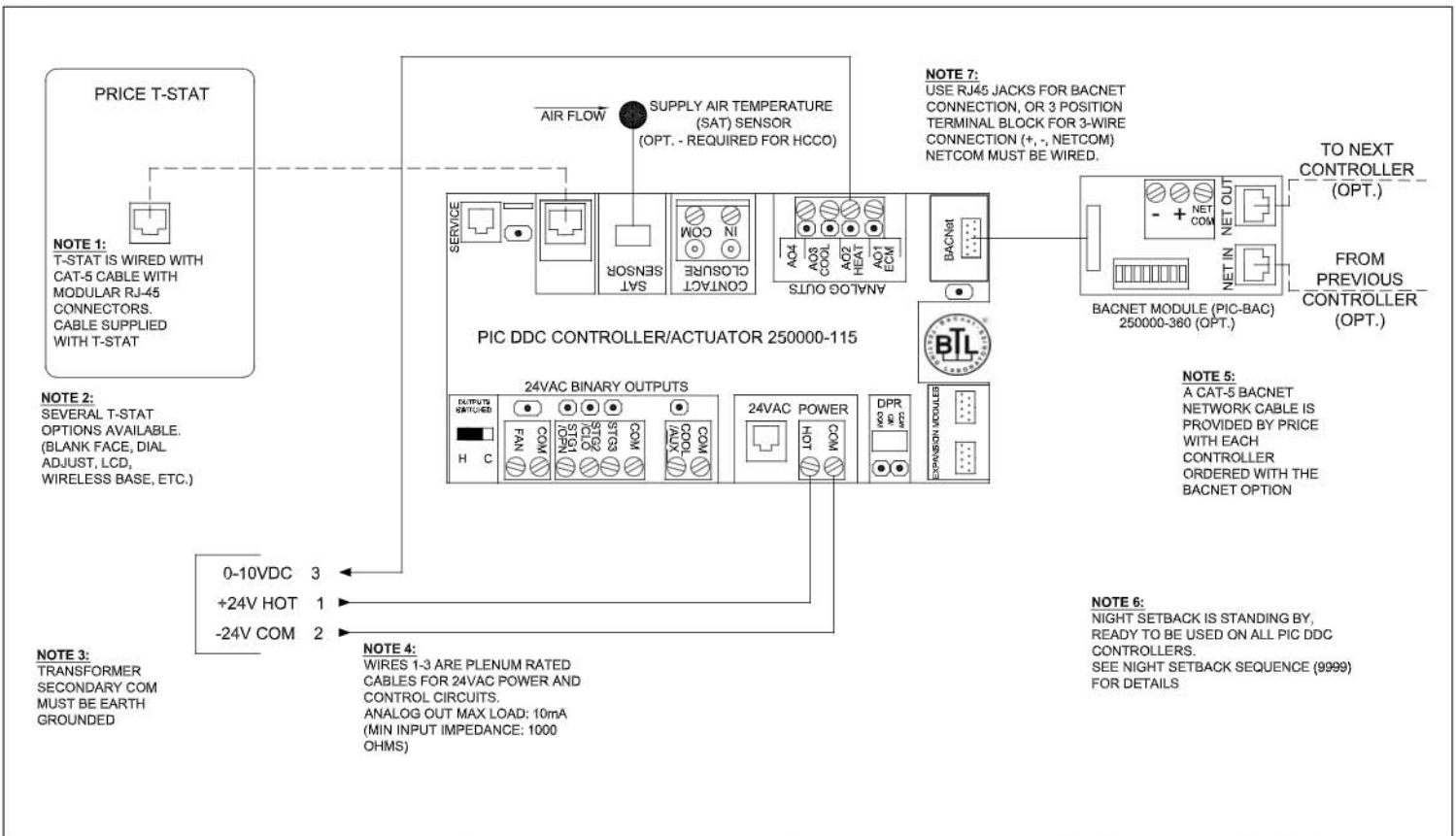
PRICE[®]

**SINGLE DUCT
PIC DDC**

PRESSURE DEPENDENT
HEAT/COOL C/O OR COOLING
WITH TRI-STATE MODULATING
HOT WATER REHEAT, FIELD WIRED

249539

2017/06/23

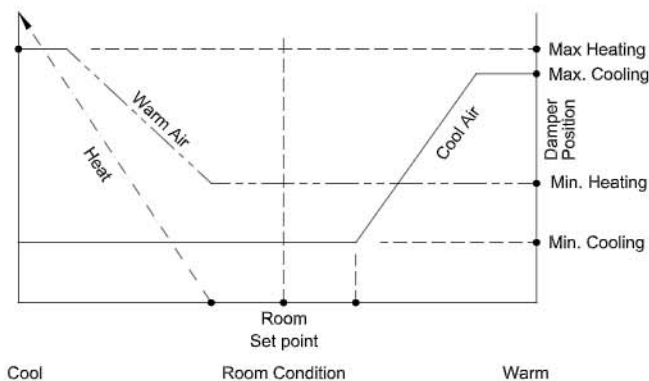


Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

LEGEND

- FACTORY ELECTRICAL WIRING
- - - - - FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Heat/cool changeover OR cooling With Analog modulating reheat - Pressure Dependent

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 air damper and increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

On a decrease in space temperature the controller regulates the actuator to close the air damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the damper position (%) 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 air damper and increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

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

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.

PROJECT:

ENGINEER:

CUSTOMER:

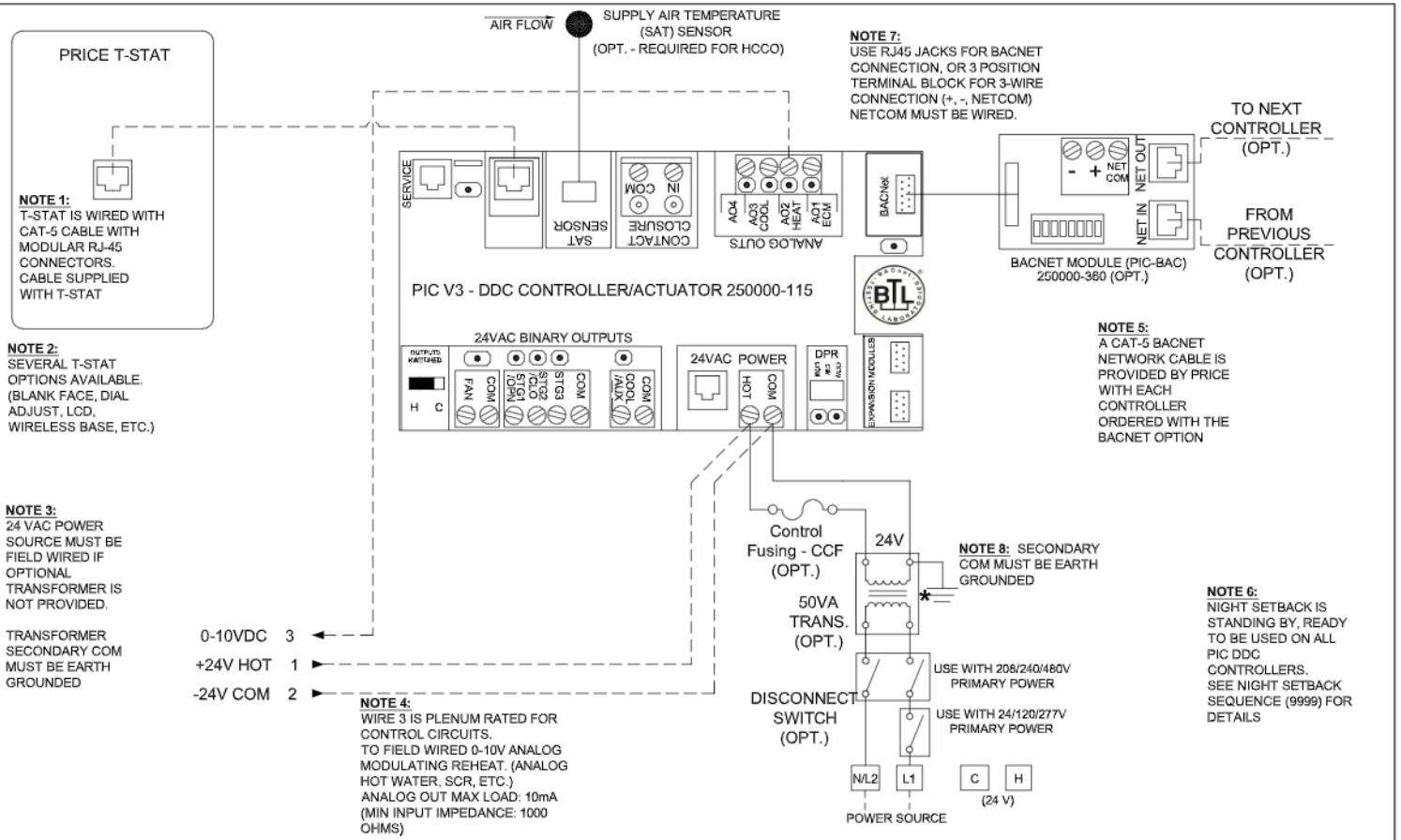
SUBMITTAL DATE:

SPEC. SYMBOL:

BE MB

249540

2017/06/23



Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

Sequence of Operation -- Heat/cool changeover OR cooling With Analog modulating reheat - Pressure Dependent

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 air damper and increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

On a decrease in space temperature the controller regulates the actuator to close the air damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the damper position (%) 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 air damper and increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the damper position (%) is maintained at its pre-selected maximum setting.

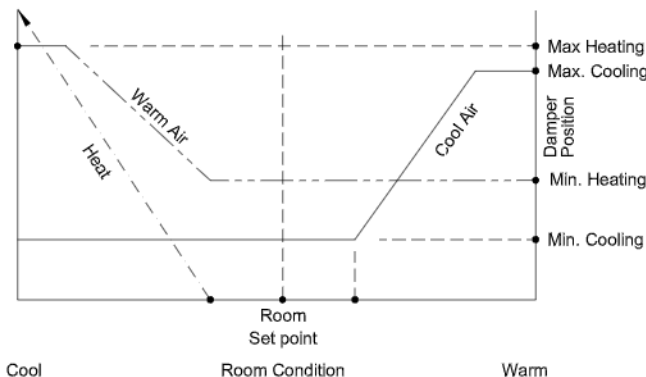
On an increase in space temperature the controller regulates the actuator to close the air damper and reduce the flow of warm air. If the space temperature increases above the heating proportional band, the damper position (%) is maintained at the pre-selected minimum setting.

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.

LEGEND

- FACTORY ELECTRICAL WIRING
- - - - - FIELD ELECTRICAL WIRING

CONTROL GRAPH



PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE[®]

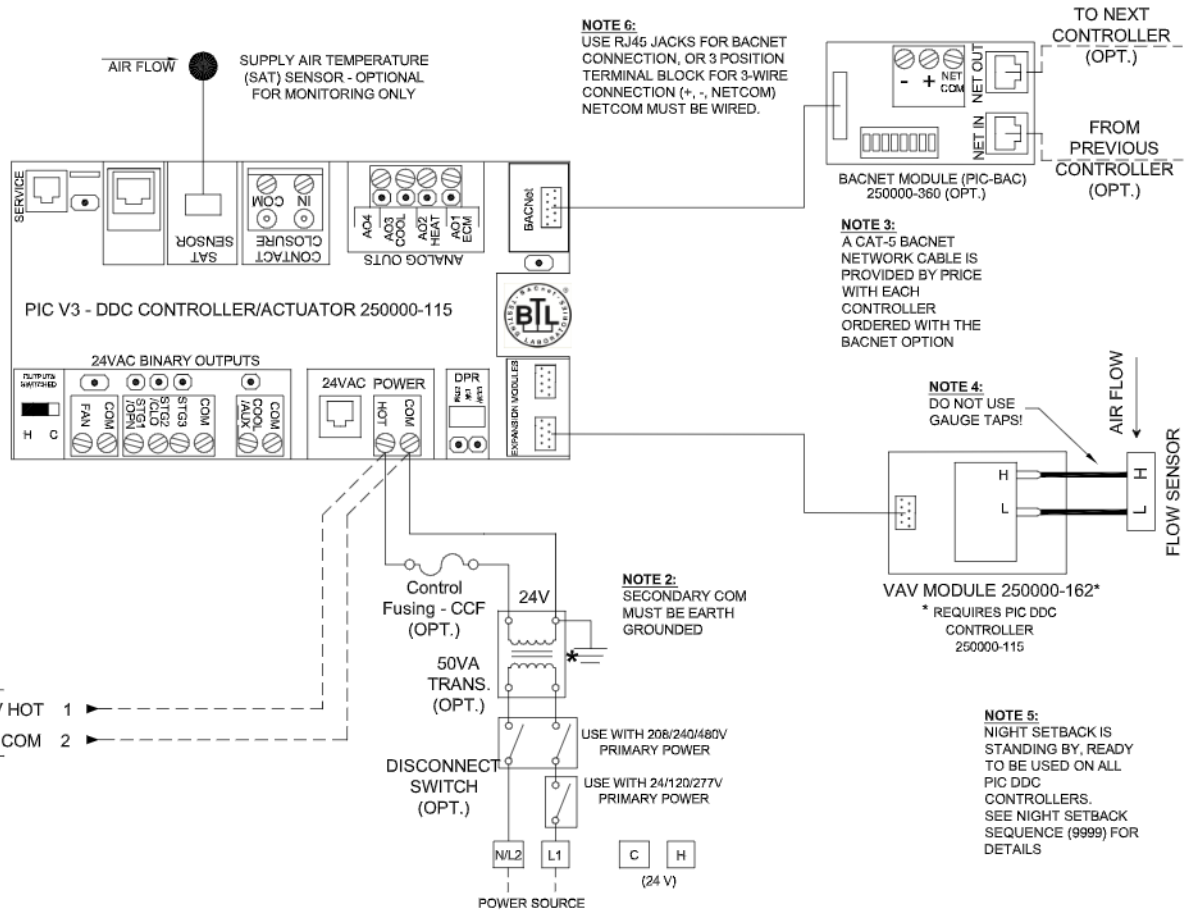
BE MB

**SINGLE DUCT
PIC DDC**

PRESSURE DEPENDENT
HEAT/COOL C/O OR COOLING
WITH ANALOG HEAT
FIELD WIRED

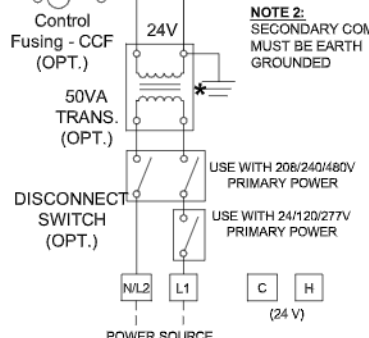
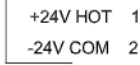
249541

2017/06/23



NOTE 1:
24 VAC POWER SOURCE MUST BE FIELD WIRED IF OPTIONAL TRANSFORMER IS NOT PROVIDED.

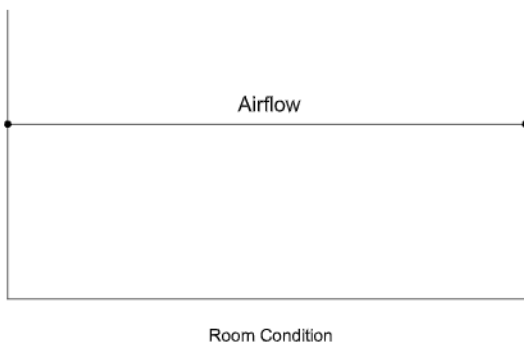
TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED



LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Constant Volume, Pressure Independent.
On power up the damper will calibrate closed for 2 minutes.

The PIC Controller shall maintain a constant airflow.

On an increase in static pressure, the controller regulates the actuator to close the VAV damper and reduce the airflow.

On a decrease in static pressure, the controller regulates the actuator to open the VAV damper and increase the airflow.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

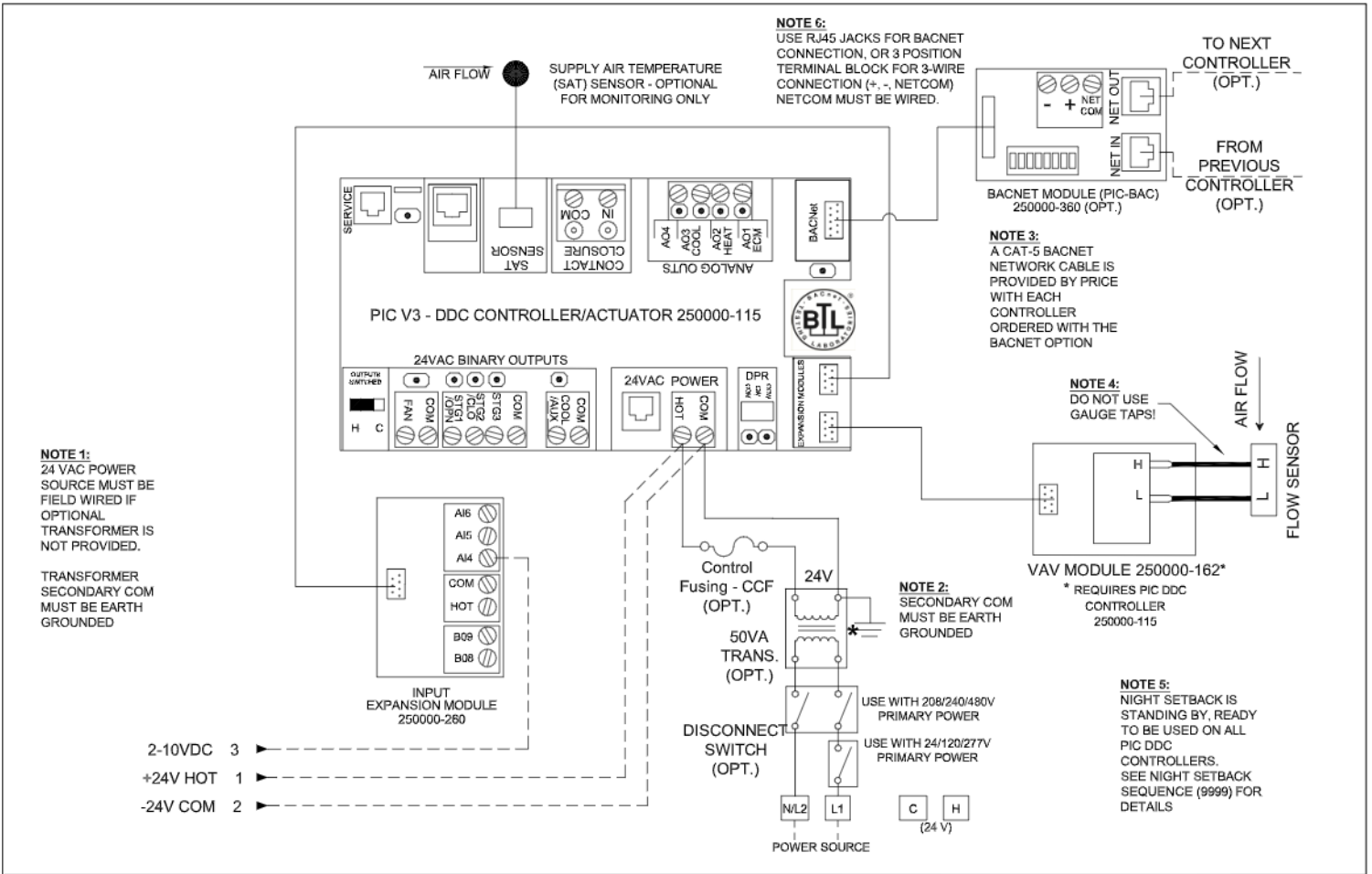
BE MB

253402

2017/06/26



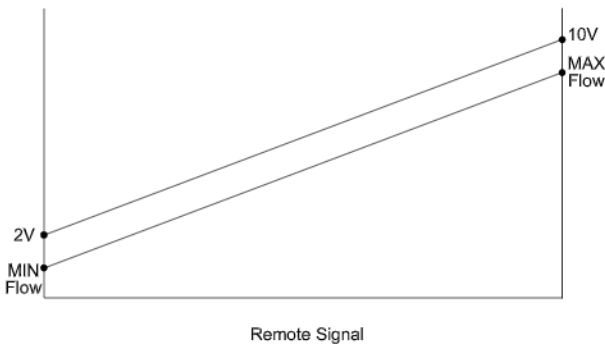
**SDE8000/SDEQ8000
SINGLE DUCT EXHAUST
PIC DDC
PRESSURE INDEPENDENT
CONSTANT VOLUME**



LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Constant Volume from remote 2-10V setpoint, Pressure Independent.

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

The PIC Controller shall maintain a constant airflow. The airflow setpoint is determined from a scalable 2-10V input.

On an increase in static pressure, the controller regulates the actuator to close the VAV damper and reduce the airflow.

On a decrease in static pressure, the controller regulates the actuator to open the VAV damper and increase the airflow.

Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

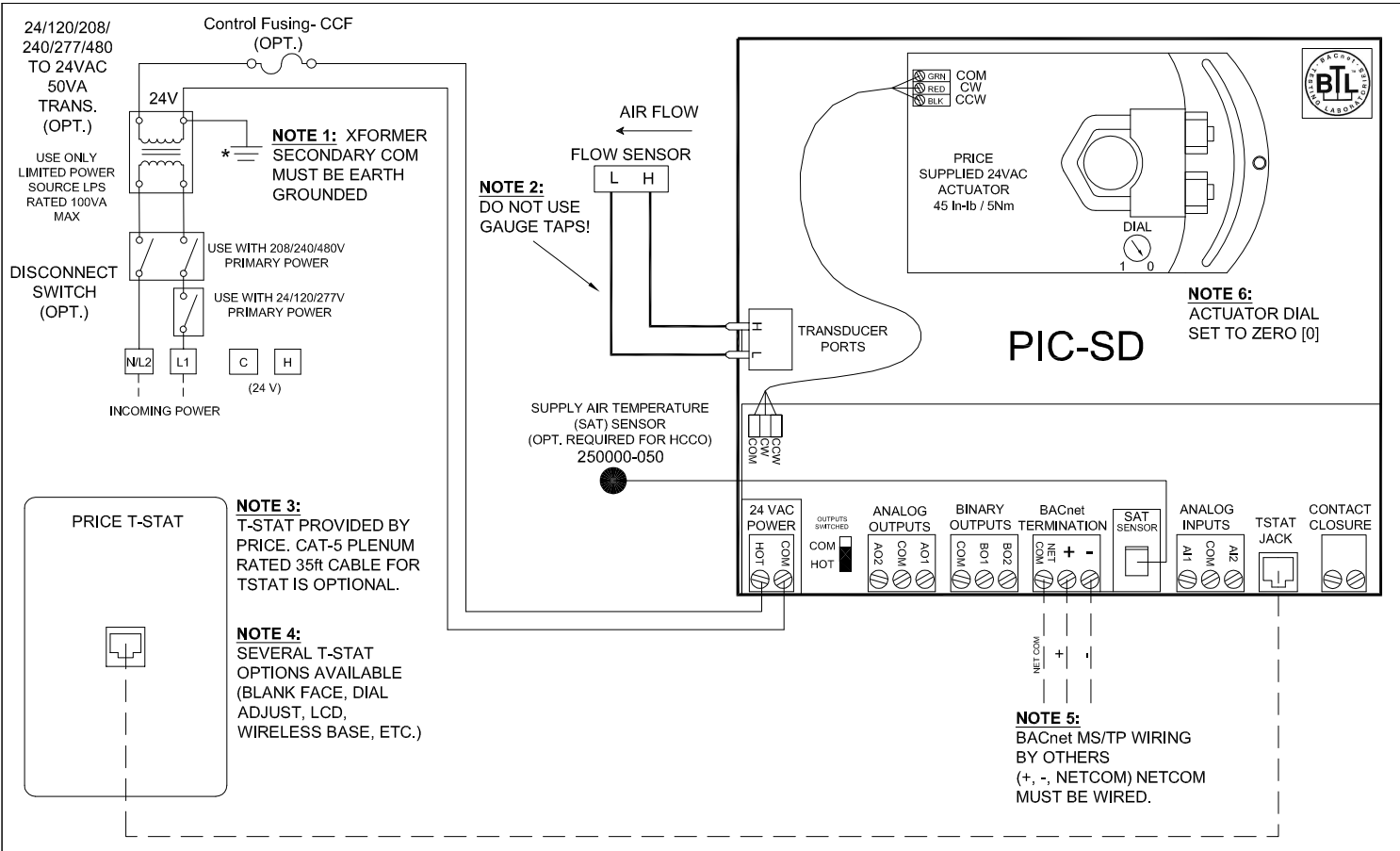


BE MB

**SDE8000/SDEQ8000
SINGLE DUCT EXHAUST
PIC DDC
PRESSURE INDEPENDENT
CONSTANT VOLUME
REMOTE 2-10V SETPOINT**

253403

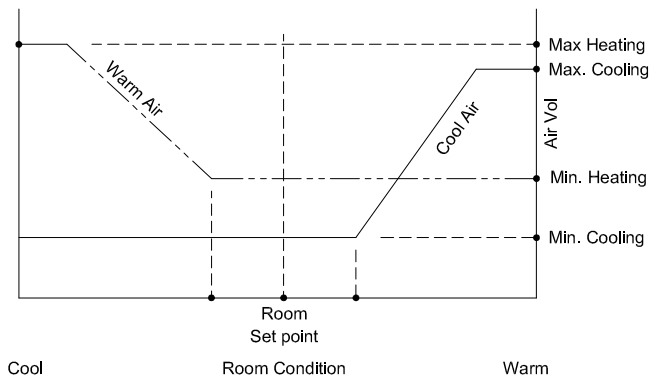
2017/06/23



LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation (PIC-SD) -- 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.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

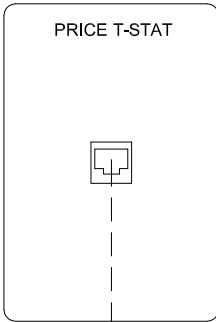
PRICE[®]

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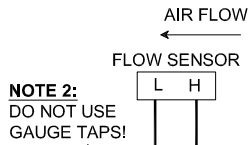
264666

2019/03/19

**SINGLE DUCT
PIC-SD DDC**
PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING ONLY
NO LOCAL REHEAT CONTROL
FACTORY WIRED

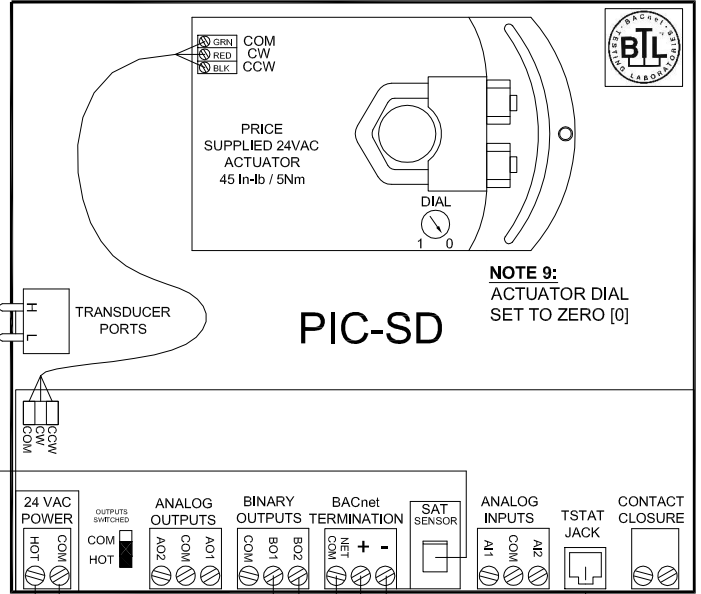


- NOTE 1:**
T-STAT PROVIDED BY PRICE. CAT-5 PLENUM RATED 35ft CABLE FOR TSTAT IS OPTIONAL.
- NOTE 3:**
SEVERAL T-STAT OPTIONS AVAILABLE (BLANK FACE, DIAL ADJUST, LCD, WIRELESS BASE, ETC.)
- NOTE 4:**
XFORMER PROVIDED AS STANDARD AND INSTALLED WITH HEATER
- NOTE 5:**
XFORMER SECONDARY COM MUST BE EARTH GROUNDED
- NOTE 6:** USE ONLY LIMITED POWER SOURCE LPS RATED 100VA MAX
- NOTE 7:**
WIRES FOR BINARY HEAT ARE PLENUM RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS - MAX 10VA PER BINARY OUTPUT
*STAGE 2 IS OPTIONAL



NOTE 2:
DO NOT USE GAUGE TAPS!

SUPPLY AIR TEMPERATURE (SAT) SENSOR (OPT. REQUIRED FOR HCCO) 250000-050



NOTE 9:
ACTUATOR DIAL SET TO ZERO [0]

- +24V HOT 1
- 24V COM 2
- 1ST STAGE 3
- 2ND STAGE 4

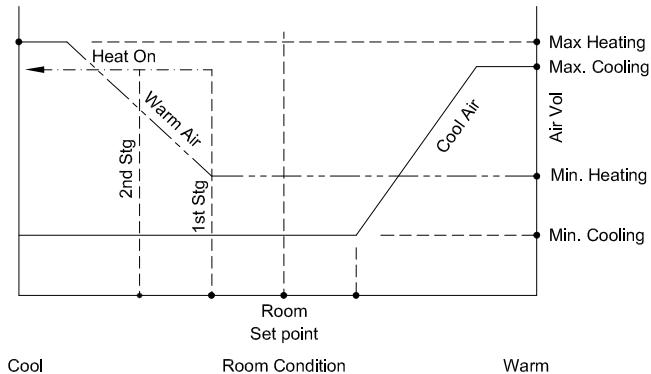
NOTE 8:
BACnet MS/TP WIRING BY OTHERS (+, -, NETCOM) NETCOM MUST BE WIRED.

LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

CONTROL GRAPH



Sequence of Operation (PIC-SD) -- Heat/cool changeover OR Cooling with up to 2 Stages of Binary Reheat - 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.

Reheat Operation: On a decrease in space temperature into the heating proportional band, the 1st stage binary 24VAC reheat output will energize. Upon further decreases, the 2nd stage of reheat will energize.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

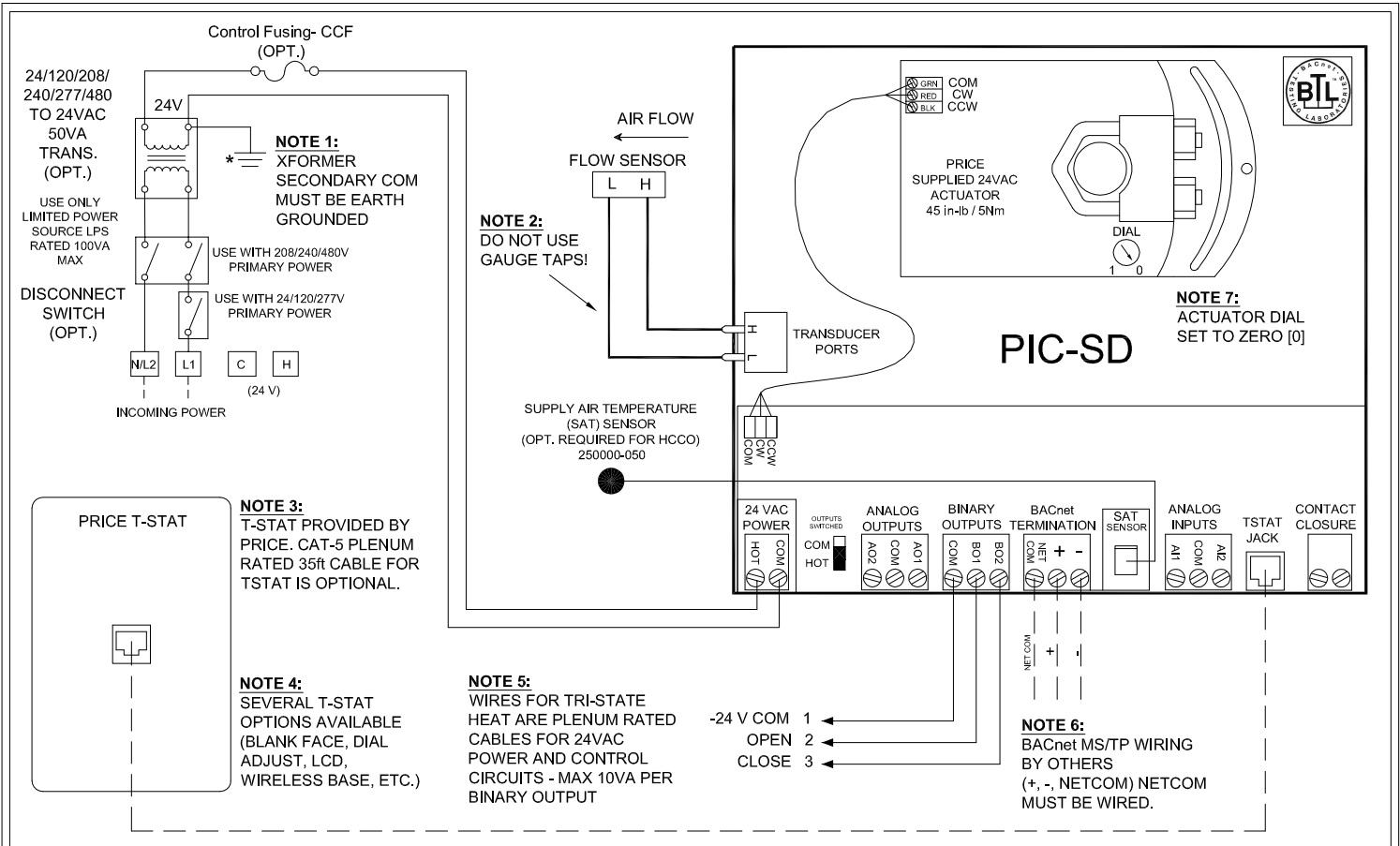
SPEC. SYMBOL:

**SINGLE DUCT
PIC-SD DDC**

PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING ONLY
WITH UP TO 2 STG BINARY HEAT
FACTORY WIRED

264667

2019/03/19

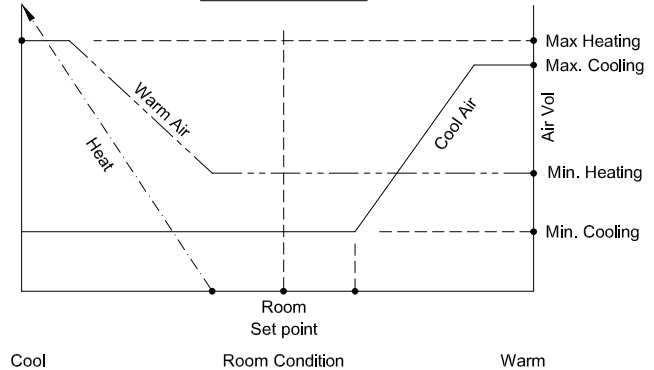


LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

CONTROL GRAPH



Sequence of Operation (PIC-SD) -- Heat/cool changeover OR Cooling with Tri-State Modulating HW Reheat - 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.

Reheat Operation: On a decrease in space temperature, the heating valve is modulated to increase heat proportionally to the room demand.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

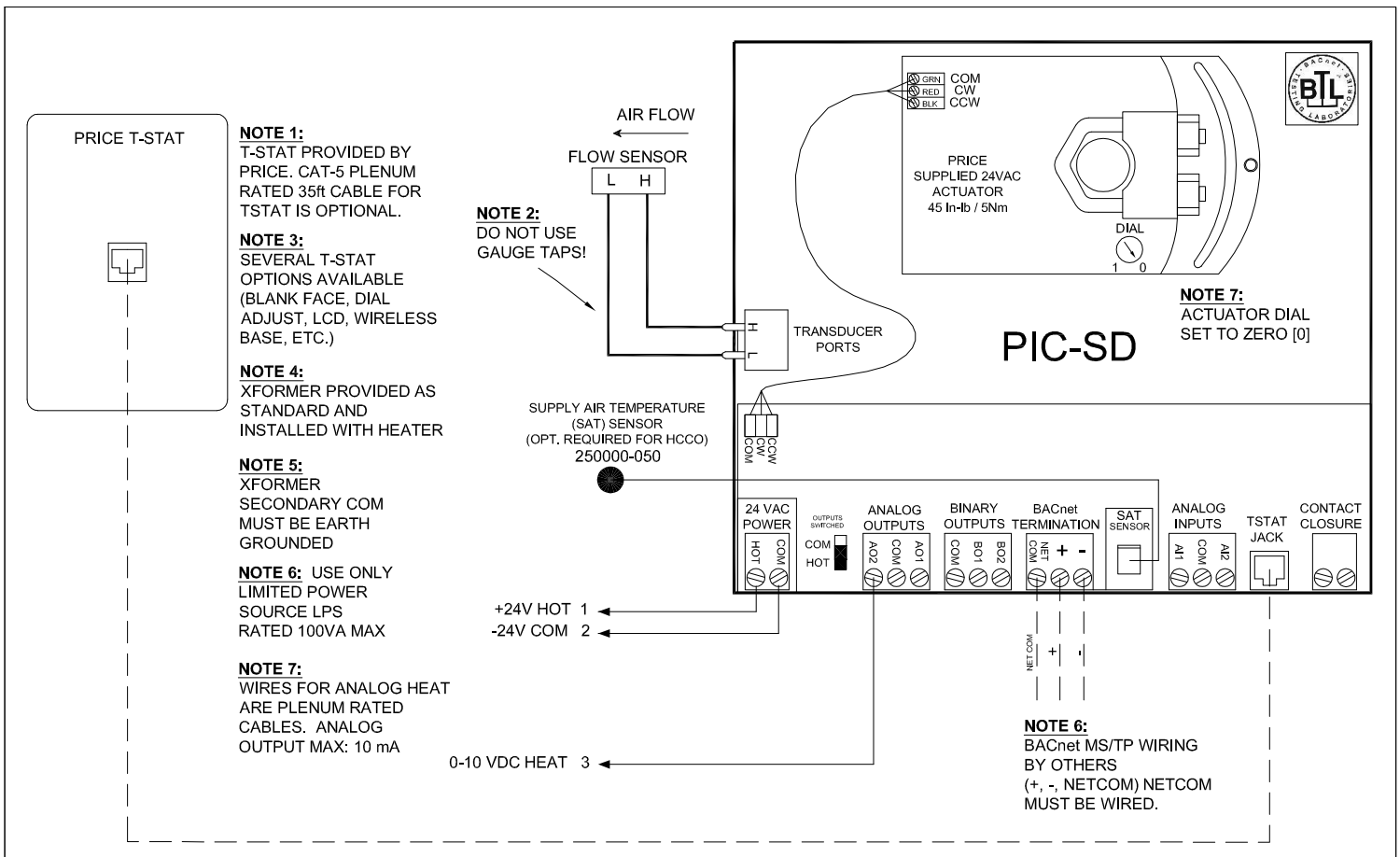
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264668

2019/03/19



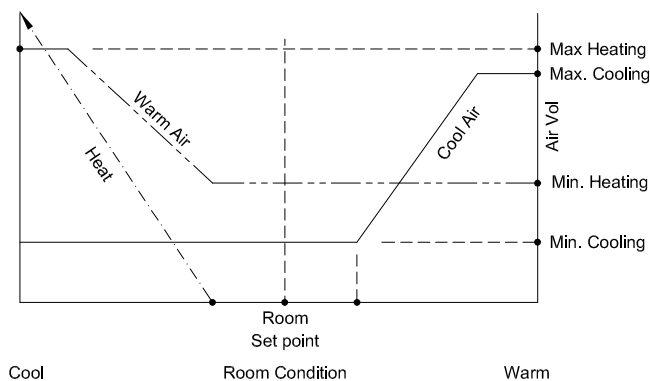
**SINGLE DUCT
PIC-SD DDC**
PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING WITH
TRI-STATE MODULATING REHEAT
FACTORY WIRED



LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- - - - -** FIELD ELECTRICAL WIRING

Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.



Sequence of Operation (PIC-SD) -- Heat/cool changeover OR Cooling with Analog Modulating Reheat - 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.

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase the heat proportionally to the room demand.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

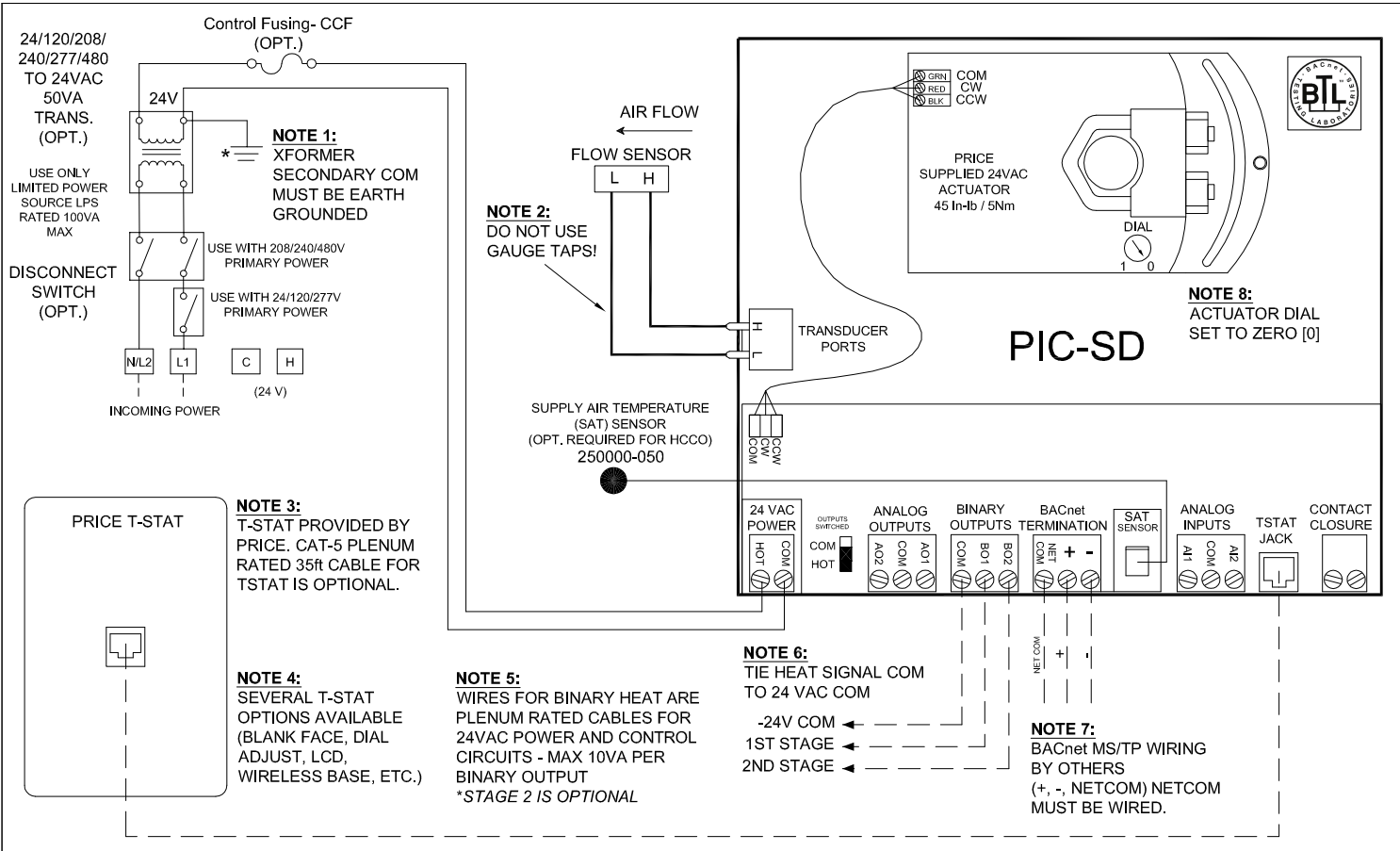
264669

2019/03/19



**SINGLE DUCT
PIC-SD DDC**

PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH ANALOG ELECTRIC REHEAT
FACTORY WIRED

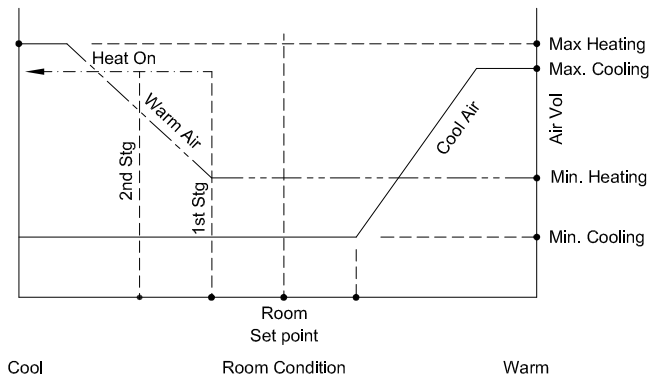


LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

CONTROL GRAPH



Sequence of Operation (PIC-SD) -- Heat/cool changeover OR Cooling with up to 2 Stages of Binary Reheat - 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.

Reheat Operation: On a decrease in space temperature into the heating proportional band, the 1st stage binary 24VAC reheat output will energize. Upon further decreases, the 2nd stage of reheat will energize.


PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

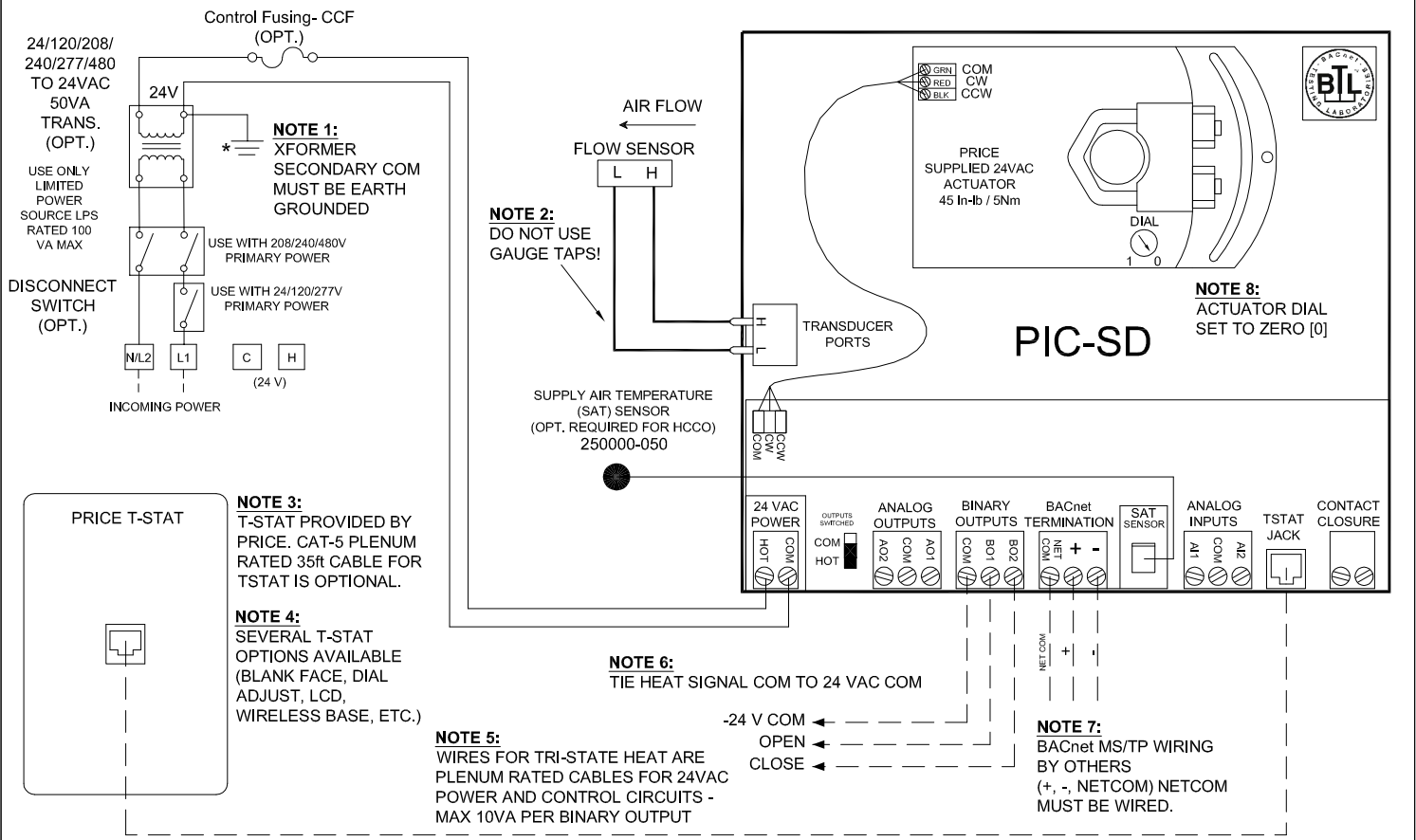


**SINGLE DUCT
PIC-SD DDC**

PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING WITH
UP TO 2 STAGES OF REHEAT
FIELD WIRED

264670

2019/03/19

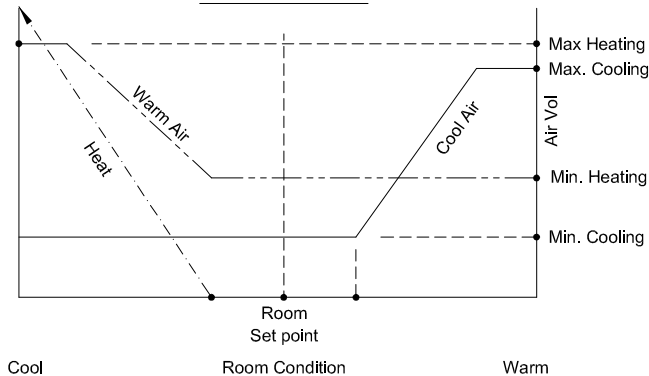


LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

CONTROL GRAPH



Sequence of Operation (PIC-SD) -- Heat/cool changeover OR Cooling with Tri-State Modulating HW Reheat - 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.

Reheat Operation: On a decrease in space temperature, the heating valve is modulated to increase heat proportionally to the room demand.

PROJECT:

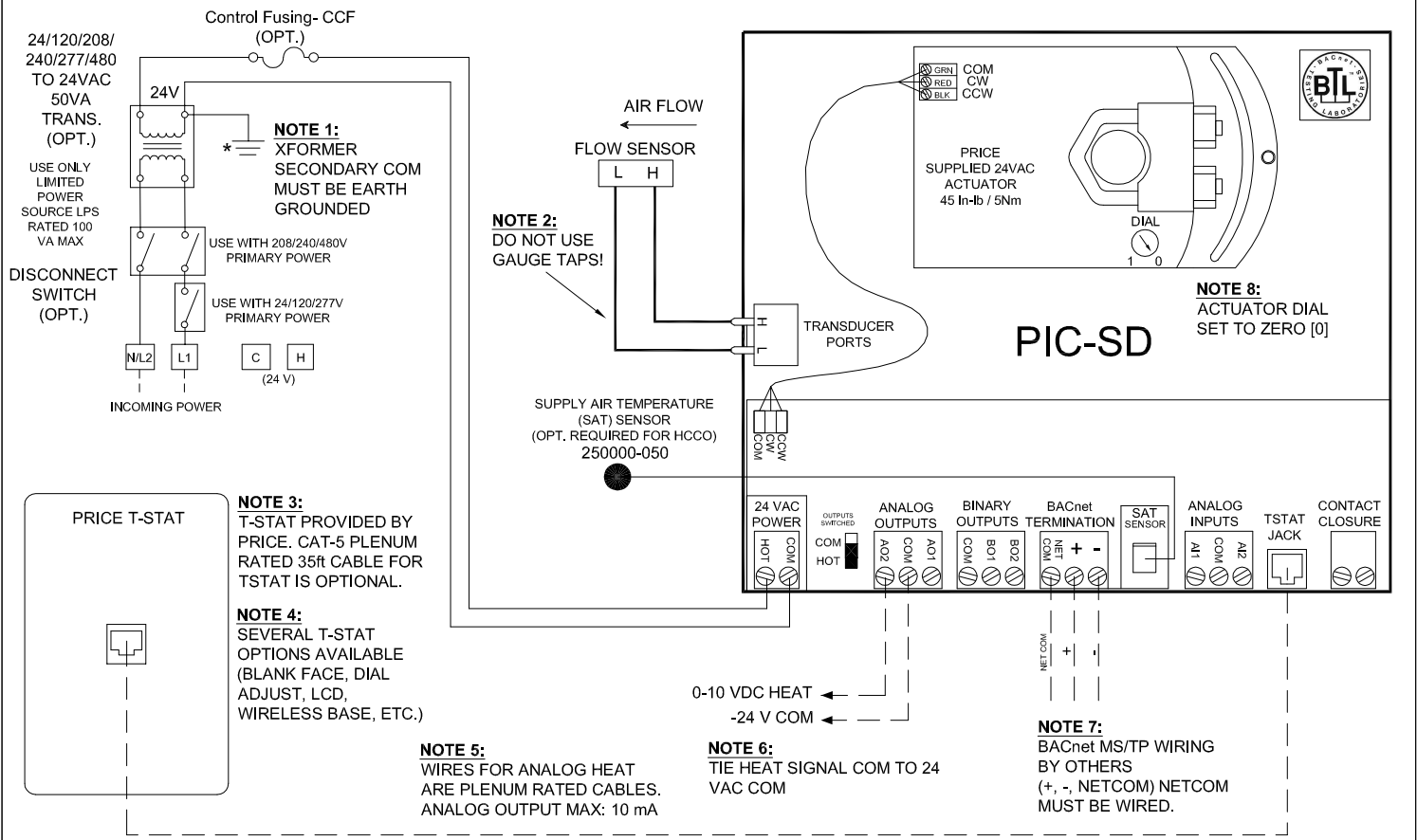
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
	SINGLE DUCT PIC-SD DDC
264671	PRESSURE INDEPENDENT HEAT/COOL C/O OR COOLING WITH TRI-STATE MODULATING REHEAT FIELD WIRED
2019/03/19	

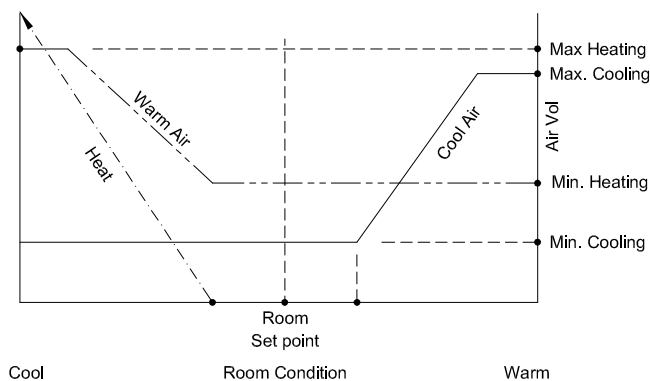


LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

CONTROL GRAPH



Sequence of Operation (PIC-SD) -- Heat/cool changeover OR Cooling with Analog Modulating Reheat - 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.

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase the heat proportionally to the room demand.

PROJECT:

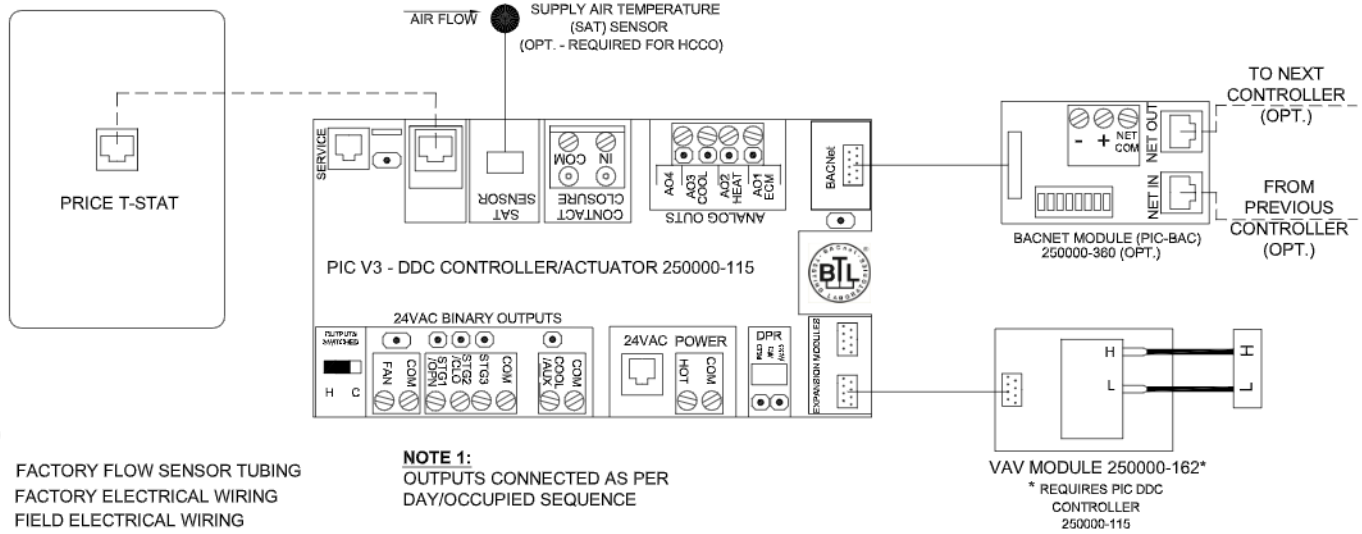
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
	SINGLE DUCT PIC-SD DDC
264672	PRESSURE INDEPENDENT HEAT/COOL C/O OR COOLING WITH ANALOG ELECTRIC REHEAT FIELD WIRED
2019/03/19	



LEGEND

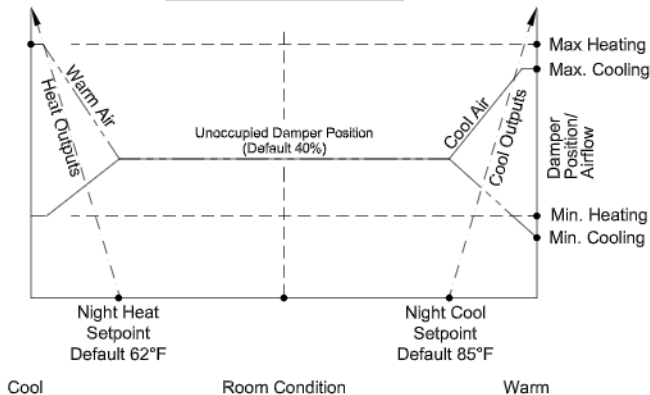
- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- - - - - FIELD ELECTRICAL WIRING

NOTE 1:
OUTPUTS CONNECTED AS PER
DAY/OCCUPIED SEQUENCE

Entering and Exiting Night Setback: There are several methods for the PIC to enter and exit night setback (unoccupied mode). All of the following methods can be enabled or disabled in software or from the T-Stat menu.

- 1. Airflow Failure:** (Disabled by default) If using a Pressure Independent day sequence (with the PIC-VAV module), the controller will enter night setback when minimal airflow is sensed in the duct. The controller does this based on Day Flow Trip and Night Flow Trip (adjustable).
Day Flow Trip is enabled when the controller sees more than 1/2 of its minimum airflow - i.e. min airflow = 132 cfm, Day Flow Trip = 66 cfm.
Night Flow Trip is enabled when the controller sees less than 1/2 of its day flow trip value - i.e. 33 cfm
- 2. Motion Sensor:** (Disabled by default) If a motion sensor T-Stat is used, the controller can enter night setback if no motion has been detected in the space for a specified period of time (default: 4 hours).
- 3. Contact Closure:** (Disabled by default) Connecting the two contact closure inputs together using a dry contact will cause the controller to enter night setback. The controller will exit night setback once the contacts are released.
- 4. T-Stat Button:** The T-Stat button allows the user to exit night setback. Pressing any button on the T-Stat will cause the controller to exit night setback for the override time period. (default: 4 hours). Occupancy override by T-Stat button is always enabled and cannot be disabled.

CONTROL GRAPH - SDV8



Sequence of Operation -- SINGLE DUCT TERMINAL UNIT - PIC CONTROLLER - NIGHT SETBACK

During night setback, the controller will respond to its night heat setpoint and its night cool setpoint.

While the room temperature is between the two night setpoints, by default the controller will maintain the damper position at 40% open. All outputs (Fan, Heat, etc.) will go to their OFF or IDLE states.

Room temperature below Night Heat Setpoint:

Reheat Operation: On a decrease in space temperature into the heating proportional band, the reheat outputs (if used) are energized proportionally.

Cool supply air: On a decrease in space temperature the controller regulates the actuator to close the VAV damper and reduce the flow of cool air. 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.

Room temperature above Night Cool Setpoint:

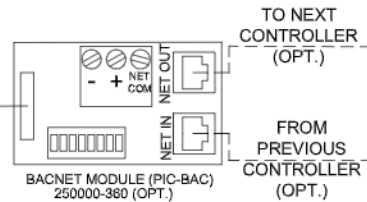
Cooling Output Operation: On an increase in space temperature into the cooling proportional band, the cooling outputs (if used) are energized proportionally.

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.

Warm supply air: On an increase in space temperature the controller regulates the actuator to close the VAV damper and reduce the flow of warm air. The airflow is maintained at the pre-selected minimum setting.

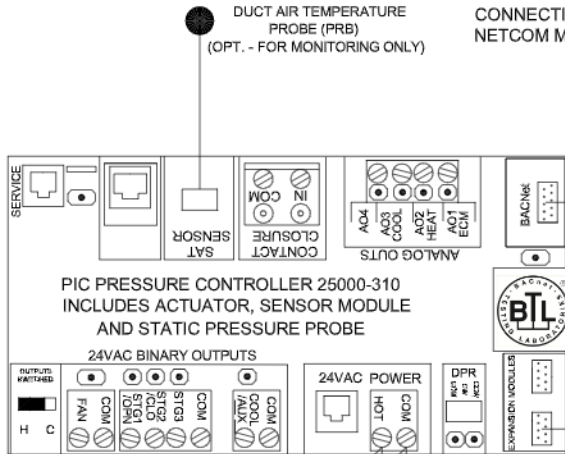
PROJECT:		PRICE [®]
ENGINEER:		
CUSTOMER:		SINGLE DUCT TERMINAL UNIT NIGHT SETBACK SEQUENCE PIC - DDC CONTROLLER SDV8
SUBMITTAL DATE:		
SPEC. SYMBOL:		

NOTE 6:
USE RJ45 JACKS FOR BACNET CONNECTION, OR 3 POSITION TERMINAL BLOCK FOR 3-WIRE CONNECTION (+, -, NETCOM) NETCOM MUST BE WIRED.



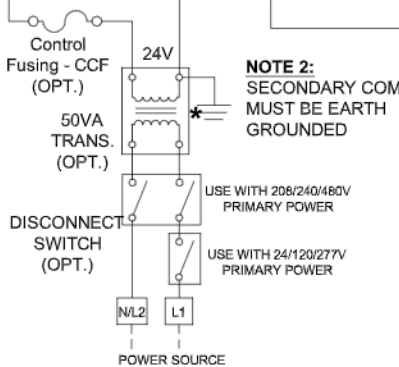
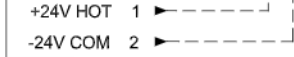
NOTE 5:
A CAT-5 BACNET NETWORK CABLE IS PROVIDED BY PRICE WITH EACH CONTROLLER ORDERED WITH THE BACNET OPTION

NOTE 3:
STATIC PRESSURE SETPOINT IS FACTORY CALIBRATED TO 0.3" W.C.
IT CAN BE CHANGED IN THE FIELD USING EITHER:
1. BACnet FRONT END
2. PRICE USB **LINKER** INTERFACE
3. **LCD-SETUP** TOOL (OR ANY PIC/PRODIGY LCD T-STAT)



NOTE 1:
24 VAC POWER SOURCE MUST BE FIELD WIRED IF OPTIONAL TRANSFORMER IS NOT PROVIDED.

TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED

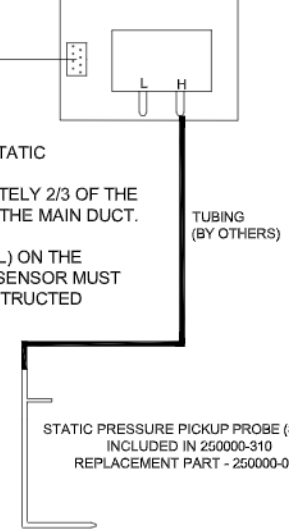


NOTE 2:
SECONDARY COM MUST BE EARTH GROUNDED

NOTE 4:
MEASURE STATIC PRESSURE APPROXIMATELY 2/3 OF THE WAY DOWN THE MAIN DUCT.

LOW PORT (L) ON THE PRESSURE SENSOR MUST NOT BE OBSTRUCTED

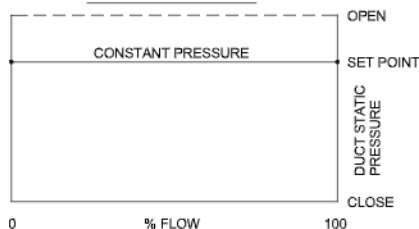
SENSOR MODULE - INCLUDED IN 250000-310
REPLACEMENT PART - 250000-170



LEGEND

- FIELD INSTALLED SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Constant Pressure, Bypass.

On startup, the controller will calibrate to the fully-open position for 2 minutes.

On an increase in duct static pressure the controller/actuator will open the VAV damper to increase the amount of air bypassed.

On a decrease in duct static pressure the controller/actuator will close the VAV damper to reduce the amount of air by-passed. Duct static pressure is held constant.

Upon detection of air handler shutdown (Zero duct pressure with bypass damper fully closed), the controller/actuator will place the damper at the pre-selected setback position (default: 50 % open)

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

BE MB

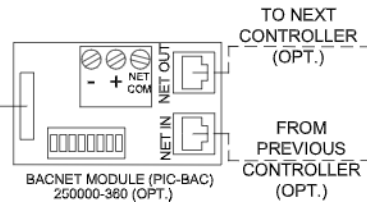
256047

2011/07/29

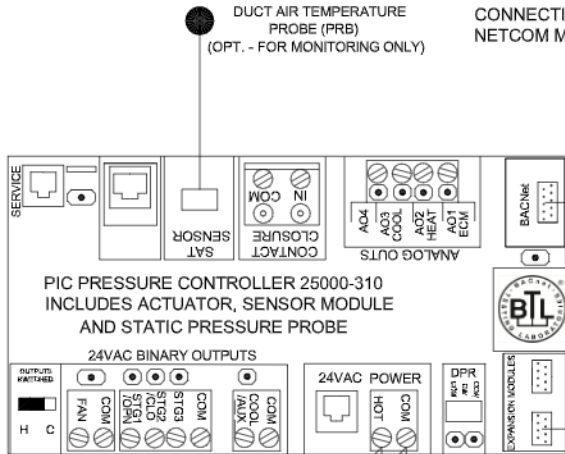
PRICE®

**PCV
PIC PRESSURE CONTROLLER**
PRICE INTELLIGENT CONTROLLER
CONSTANT PRESSURE
BYPASS
DIGITAL S.P. ADJUST

NOTE 6:
USE RJ45 JACKS FOR BACNET CONNECTION, OR 3 POSITION TERMINAL BLOCK FOR 3-WIRE CONNECTION (+, -, NETCOM) NETCOM MUST BE WIRED.



NOTE 5:
A CAT-5 BACNET NETWORK CABLE IS PROVIDED BY PRICE WITH EACH CONTROLLER ORDERED WITH THE BACNET OPTION

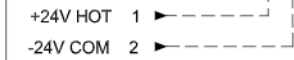


PIC PRESSURE CONTROLLER 25000-310
INCLUDES ACTUATOR, SENSOR MODULE
AND STATIC PRESSURE PROBE

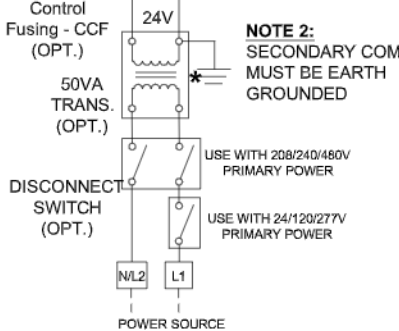
24VAC BINARY OUTPUTS

NOTE 3:
STATIC PRESSURE SETPOINT IS FACTORY CALIBRATED TO 0.3" W.C.
IT CAN BE CHANGED IN THE FIELD USING EITHER:
1. BACnet FRONT END
2. PRICE USB **LINKER** INTERFACE
3. **LCD-SETUP** TOOL (OR ANY PIC/PRODIGY LCD T-STAT)

NOTE 1:
24 VAC POWER SOURCE MUST BE FIELD WIRED IF OPTIONAL TRANSFORMER IS NOT PROVIDED.

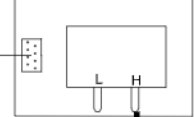


TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED



NOTE 2:
SECONDARY COM MUST BE EARTH GROUNDED

SENSOR MODULE - INCLUDED IN 250000-310
REPLACEMENT PART - 250000-170



NOTE 4:
MEASURE STATIC PRESSURE APPROXIMATELY 2/3 OF THE WAY DOWN THE MAIN DUCT.
LOW PORT (L) ON THE PRESSURE SENSOR MUST NOT BE OBSTRUCTED

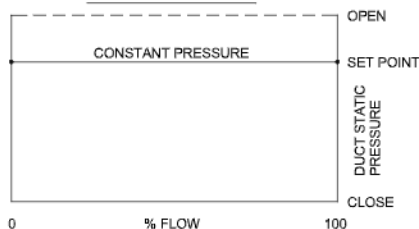
TUBING (BY OTHERS)

STATIC PRESSURE PICKUP PROBE (SPRB)-
INCLUDED IN 250000-310
REPLACEMENT PART - 250000-060

LEGEND

- FIELD INSTALLED SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Constant Pressure, Downstream.

On startup, the controller will calibrate to the fully-closed position for 2 minutes.

On an increase in duct static pressure the controller/actuator will close the VAV damper to decrease the amount of air delivered downstream of the box.

On a decrease in duct static pressure the controller/actuator will open the VAV damper to increase the amount of air delivered downstream of the box.

Duct static pressure is held constant.

Upon detection of air handler shutdown (Zero duct pressure with VAV damper fully open), the controller/actuator will place the damper at the pre-selected setback position (default: 50 % open)

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

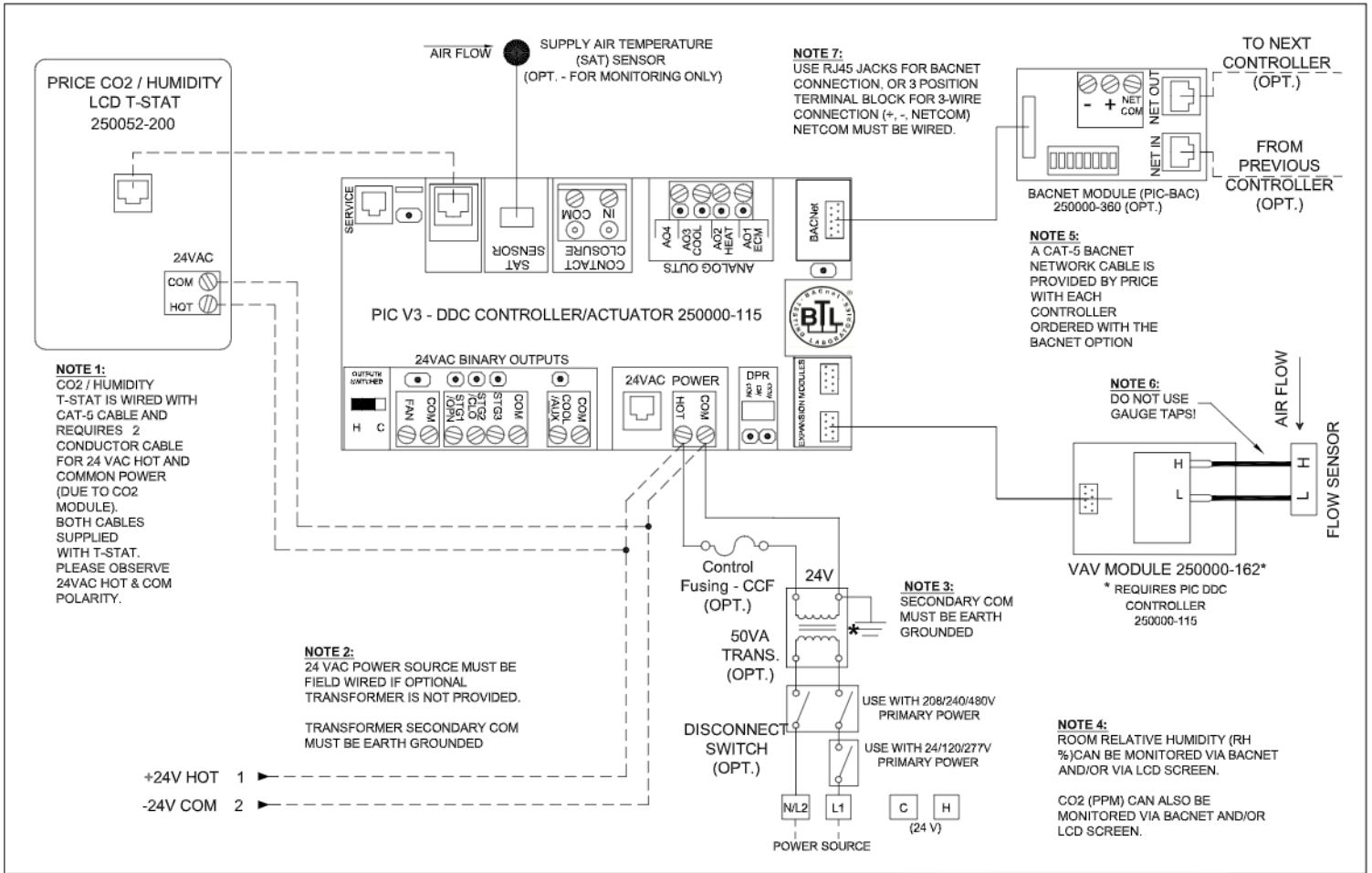
BE MB

256048

2017/15/12

PRICE[®]

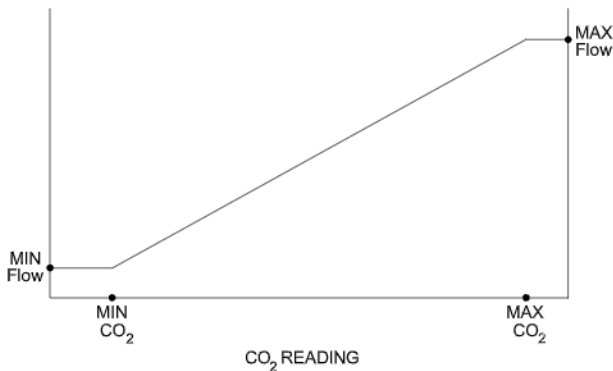
**PCV
PIC PRESSURE CONTROLLER**
PRICE INTELLIGENT CONTROLLER
CONSTANT PRESSURE
DOWNSTREAM
DIGITAL S.P. ADJUST



LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- CO₂ Tracking, Variable Volume, Pressure Independent

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

The PIC Controller shall maintain an airflow through the VAV terminal that is directly proportional to the CO₂ level in the occupied space. CO₂ is measured at the Price CO₂ thermostat.

As the CO₂ reading increases from the minimum level to the maximum level (adjustable), the airflow is increased proportionally between the adjustable minimum and maximum airflow setpoints.

As the CO₂ reading decreases from the maximum level to the minimum level (adjustable), the airflow is decreased proportionally between the adjustable minimum and maximum airflow setpoints.

PROJECT:

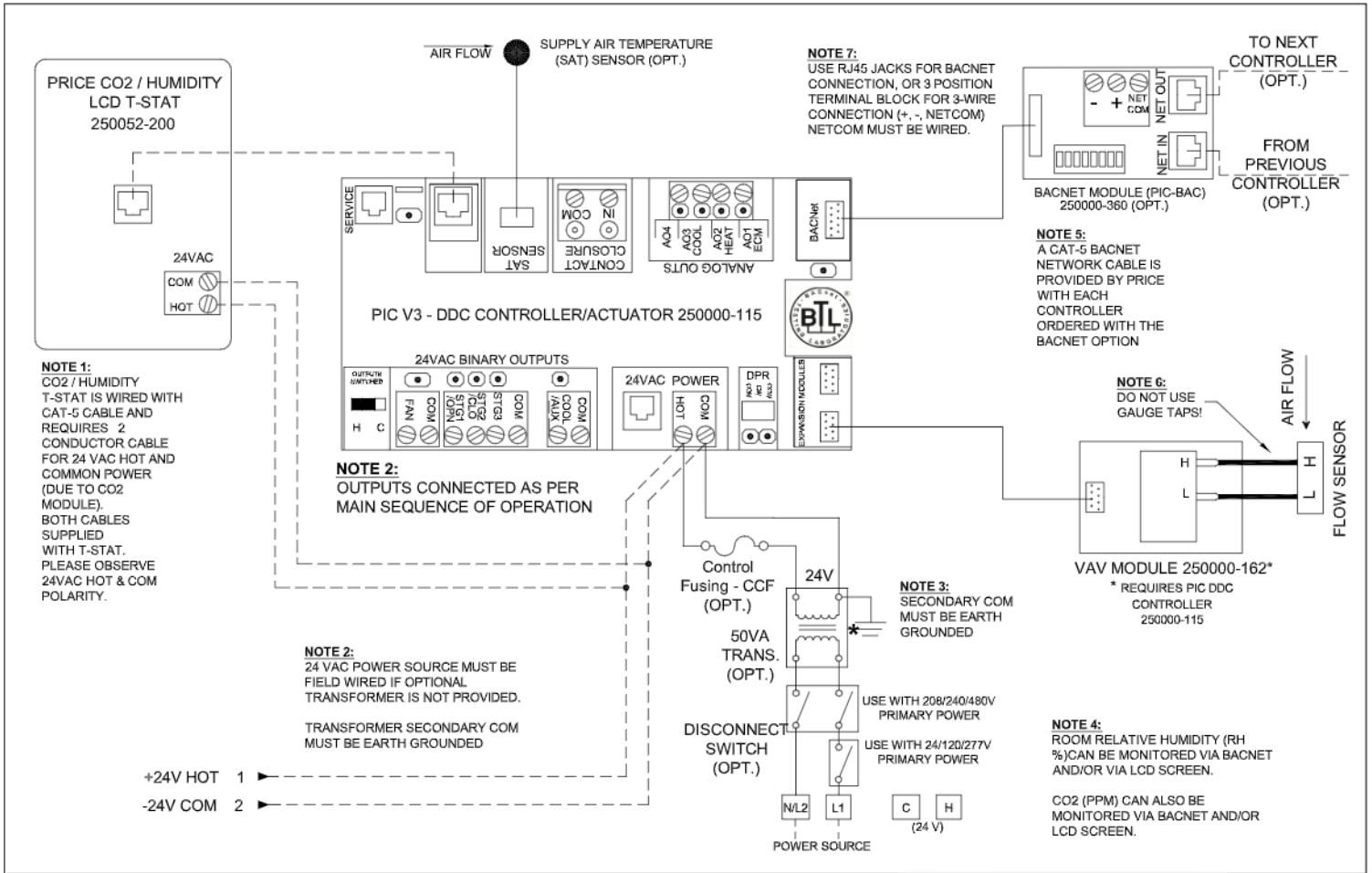
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

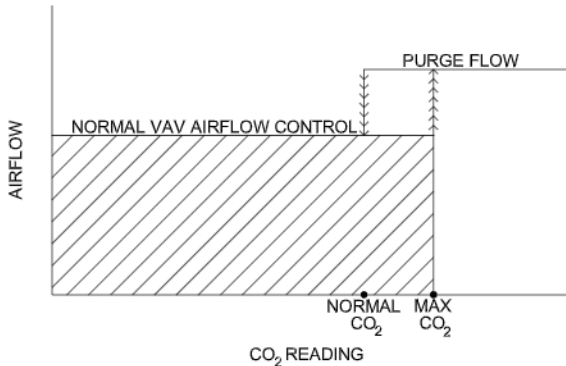
	SINGLE DUCT PIC DDC
259561	PRESSURE INDEPENDENT VARIABLE VOLUME CO ₂ AIRFLOW TRACKING
2017/06/26	



LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- CO₂ Purge, Pressure Independent

*Secondary control sequence. Adds functionality to standard terminal unit control sequences (280x, 680x, 880x) with the CO₂/humidity T-stat Part #250052-200.

NORMAL OPERATION

While the CO₂ reading in the occupied space is below the adjustable maximum level, the terminal unit is controlled as per the selected standard control sequence (280x, 680x, 880x).

CO₂ PURGE

If the CO₂ reading in the occupied space rises above the adjustable maximum level, the controller will regulate the VAV damper to increase the airflow into the space to the adjustable "CO₂ Purge" airflow setting.

Once the CO₂ reading drops to the normal CO₂ level, the controller will resume normal operation.

REHEAT OPERATION

The controller will energize reheat (as directed by the standard control sequence) in both Normal and CO₂ Purge operating modes.

PROJECT:

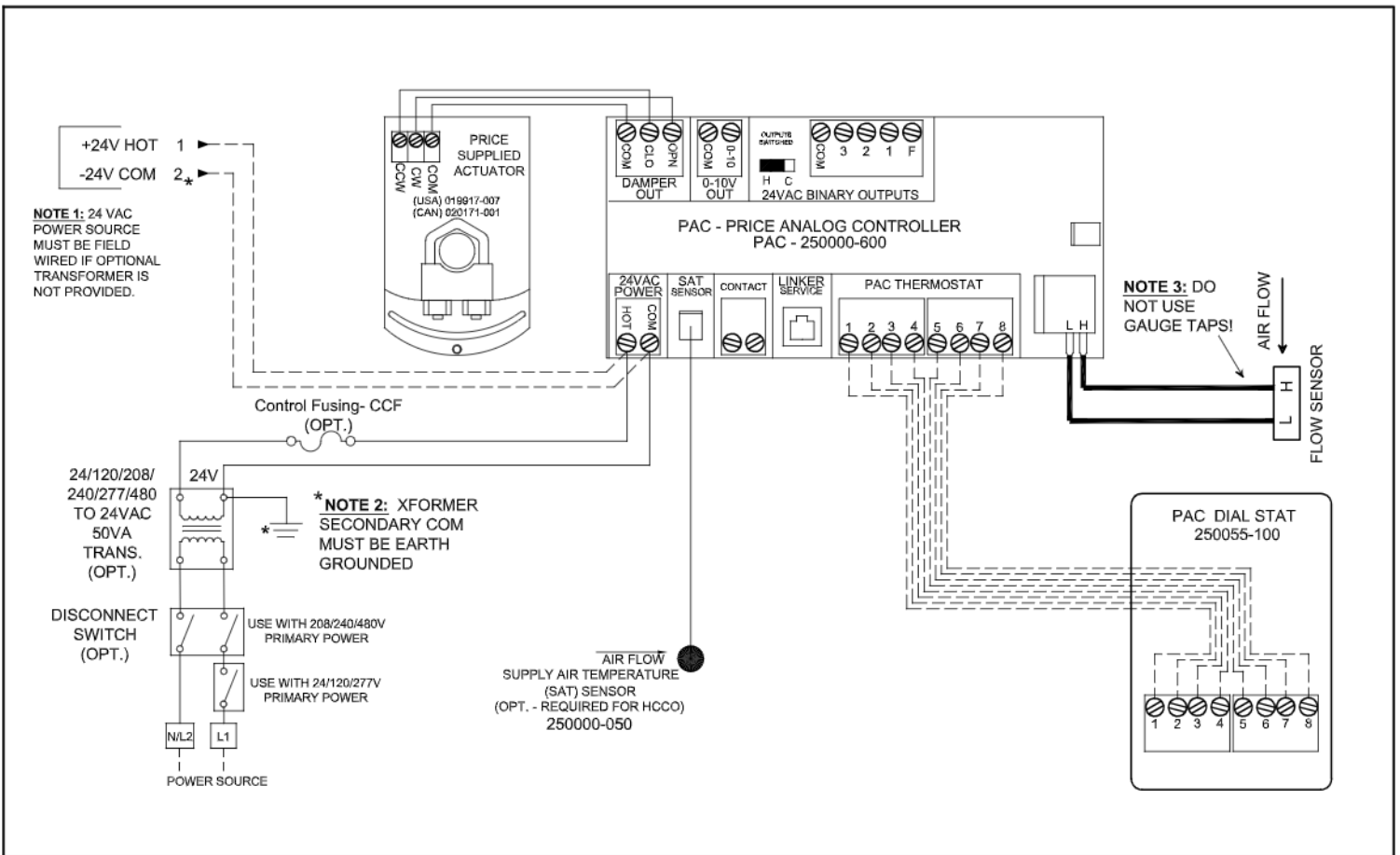
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

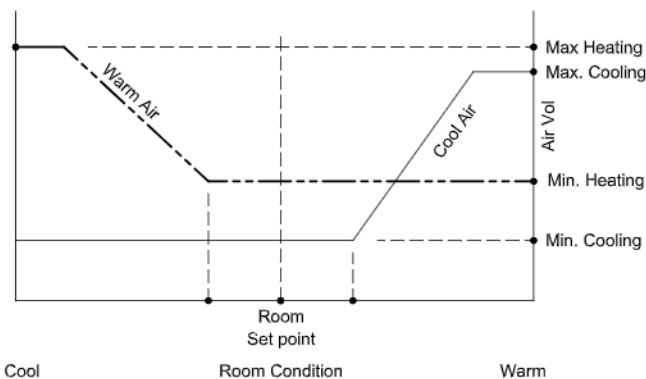
<i>BE MB</i>	TERMINAL CONTROLS PIC DDC
259562	PRESSURE INDEPENDENT CO ₂ PURGE
2017/06/26	ADDS FUNCTIONALITY TO STD TERMINAL CONTROL SEQUENCES



LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



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.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

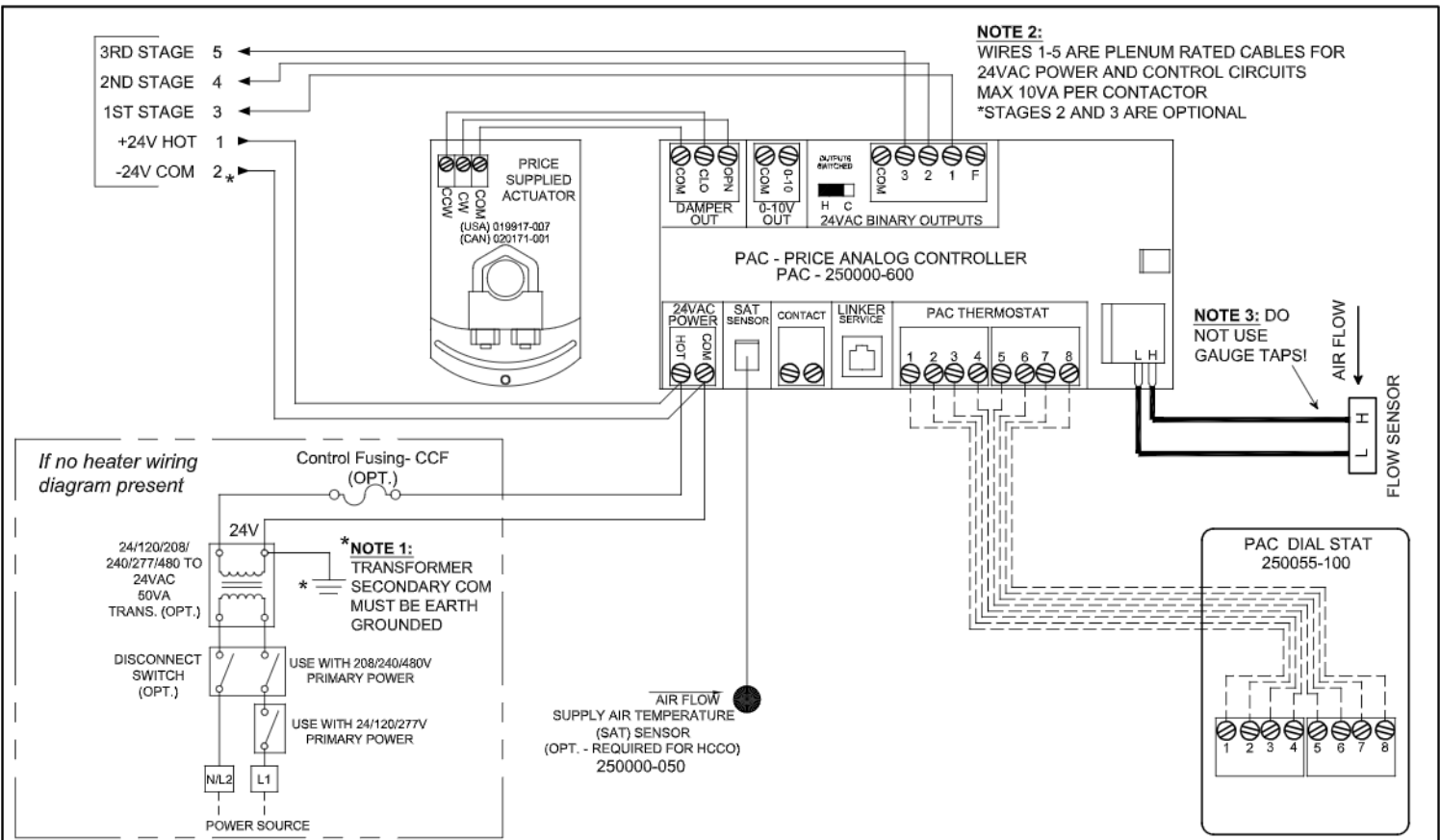


KR/mm

254832

2012/11/13

**SINGLE DUCT
PAC**
PRESSURE INDEPENDENT
HEAT/COOL CHANGEOVER
OR COOLING ONLY
NO LOCAL REHEAT CONTROL

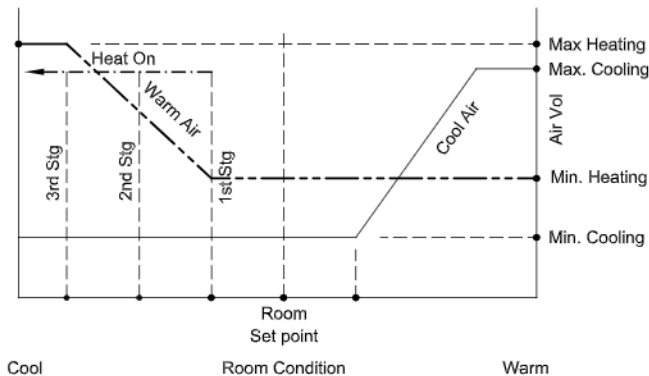


Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Heat/cool changeover OR cooling With up to 3 stage binary reheat - 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.

Reheat Operation: On a decrease in space temperature into the heating proportional band, the 1st stage binary 24VAC reheat output will energize. Upon further decreases, the 2nd then 3rd stages of reheat (if used) will energize.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

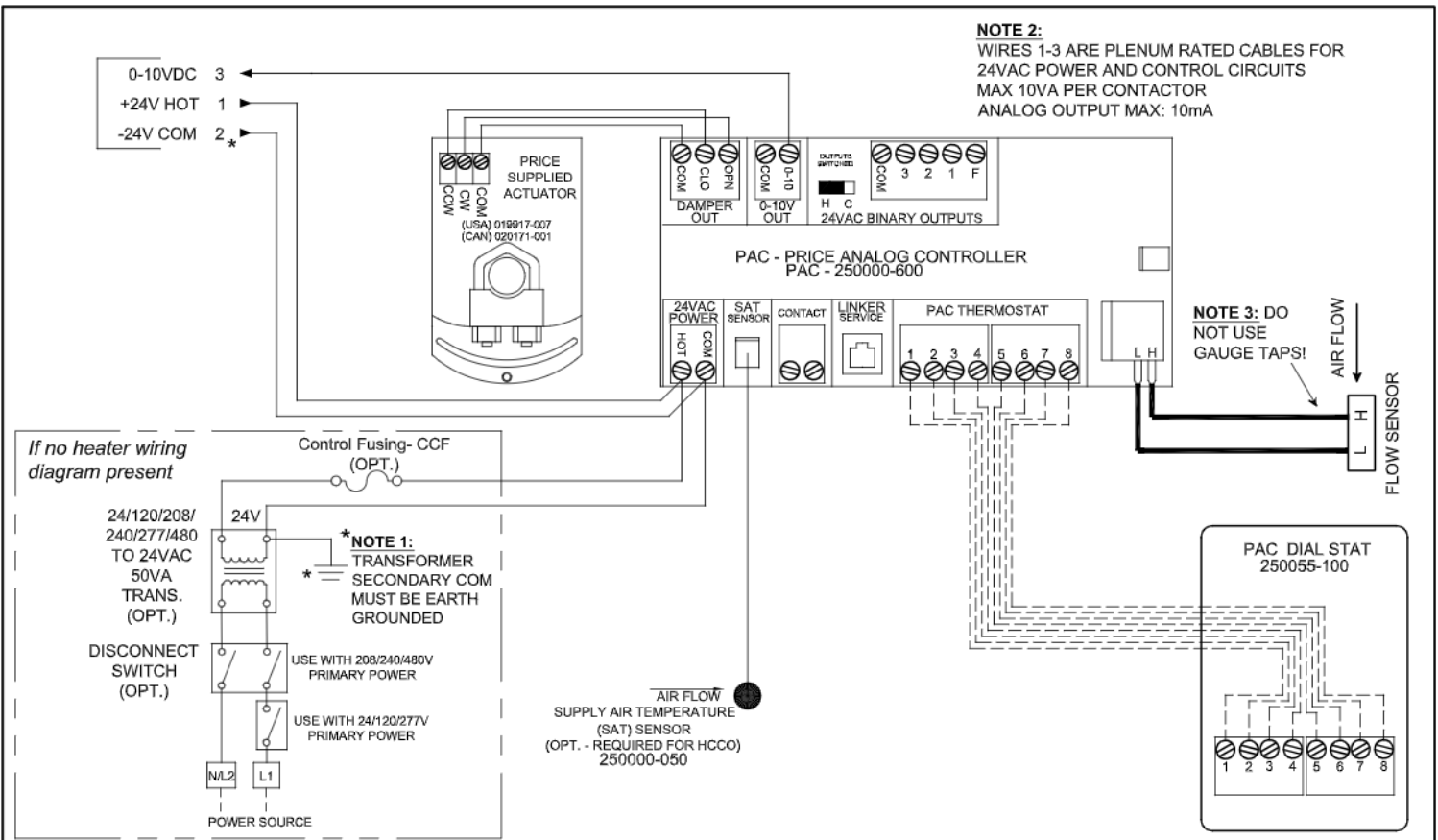


KR/mm

254833

2012/11/13

**SINGLE DUCT
PAC**
PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH UP TO 3 STG BINARY REHEAT



Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

**Sequence of Operation -- Heat/cool changeover OR cooling
With Analog modulating reheat - 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.

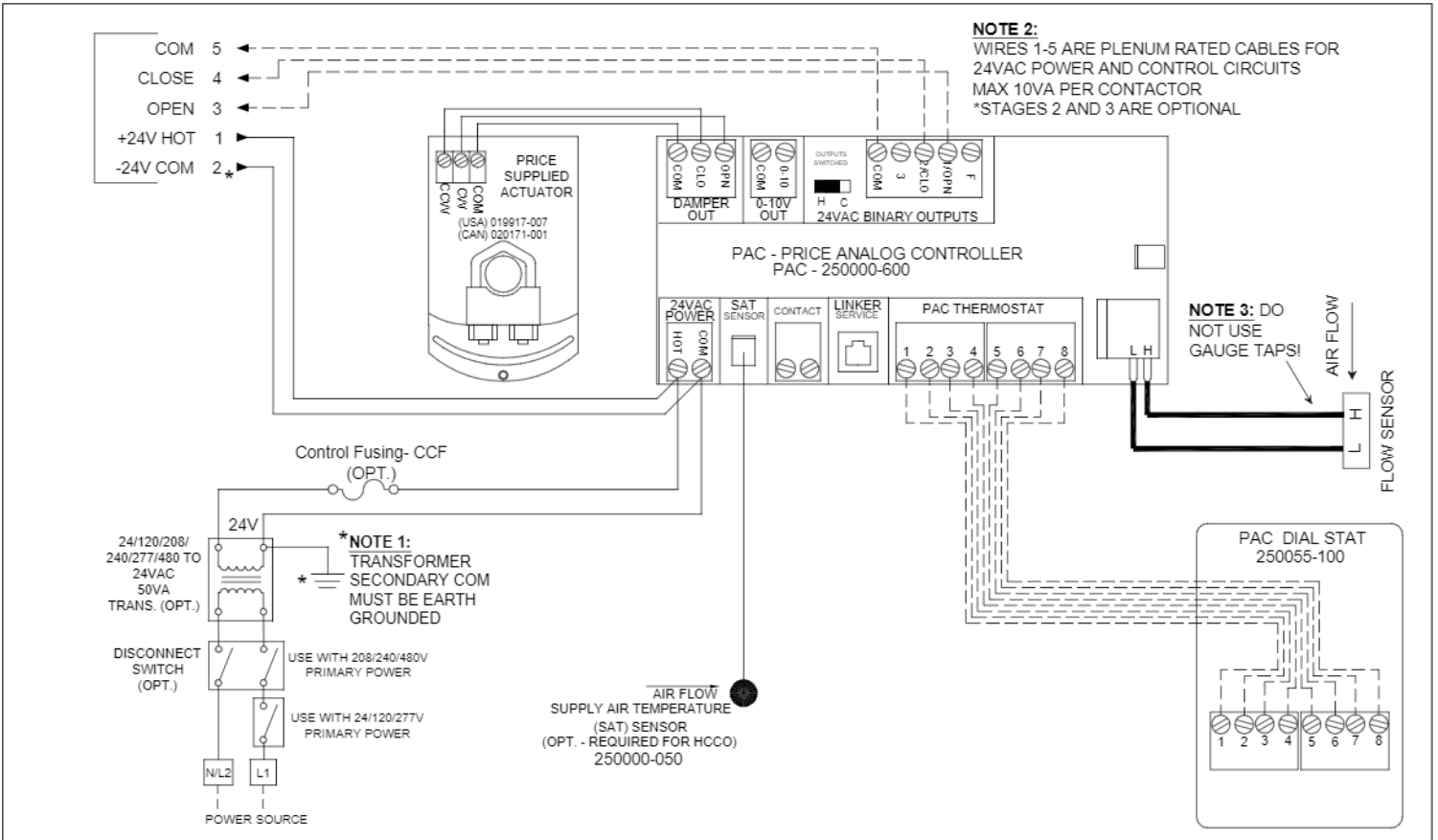
On a decrease in space temperature the controller regulates the actuator to close the VAV damper and reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the airflow is maintained at the pre-selected minimum setting.

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.

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.

PROJECT:		PRICE [®]
ENGINEER:		
CUSTOMER:		KR/mm
SUBMITTAL DATE:		254834
SPEC. SYMBOL:		2012/11/13
		SINGLE DUCT PAC PRESSURE INDEPENDENT HEAT/COOL C/O OR COOLING WITH ANALOG ELECTRIC HEAT

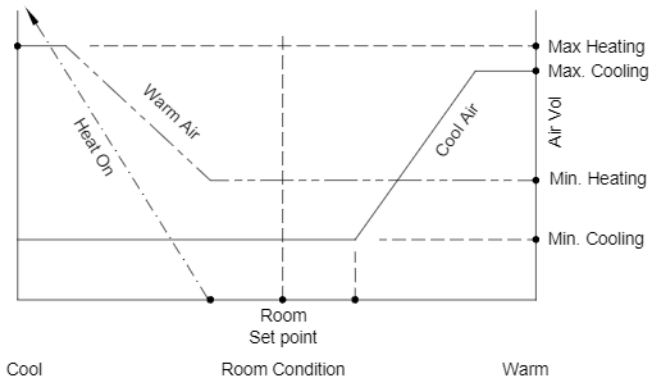


Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Heat/cool changeover OR cooling With up to 3 stage binary reheat - 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.

Reheat Operation: On a decrease in space temperature into the heating proportional band, the HW valve is modulated to increase heat proportionally to room demand.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

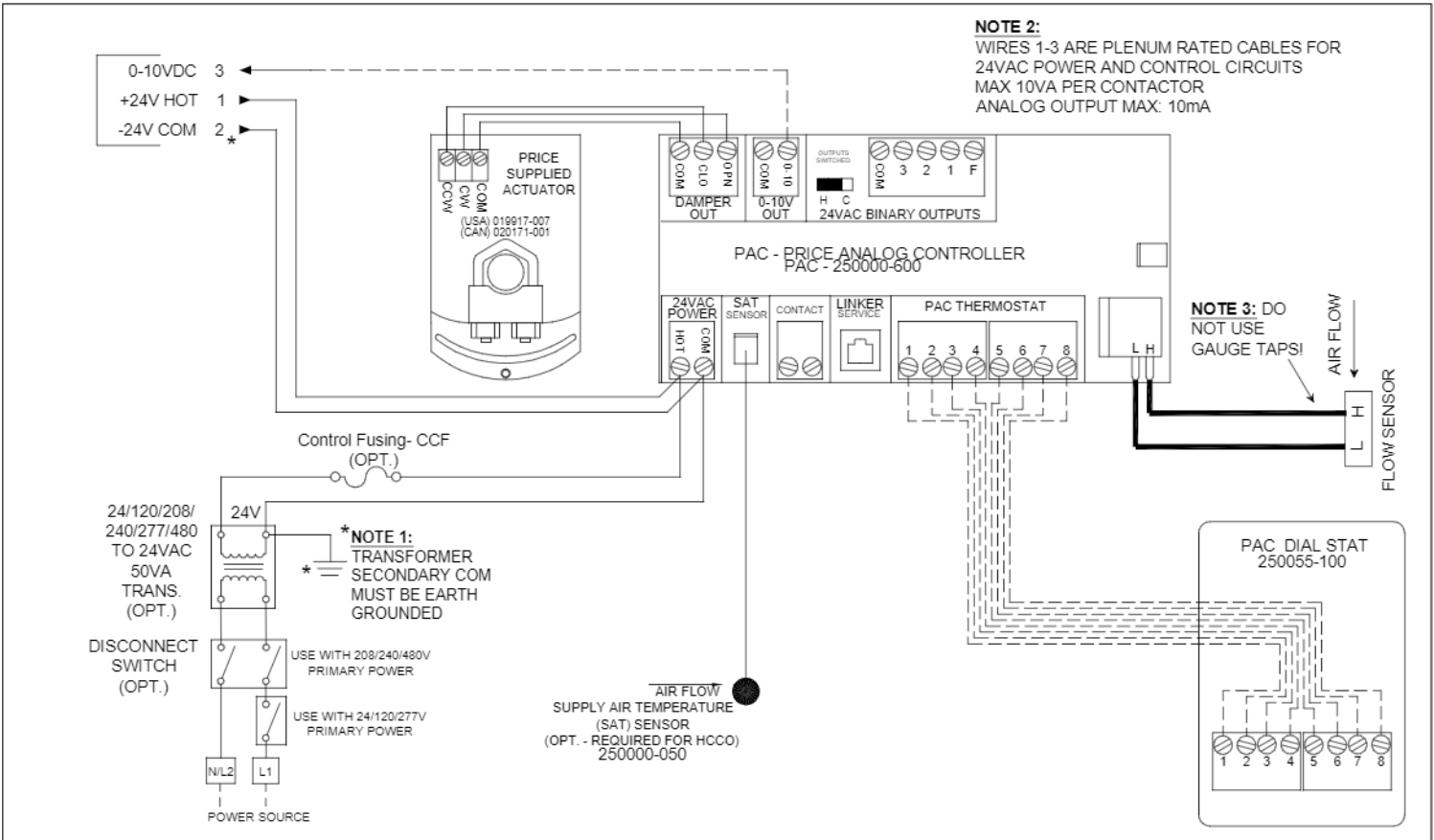


GF mm

264451

2014/03/14

**SINGLE DUCT
PAC**
PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH FIELD WIRED TRI-STATE HW



Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

**Sequence of Operation -- Heat/cool changeover OR cooling
With Analog modulating reheat - Pressure Independent**

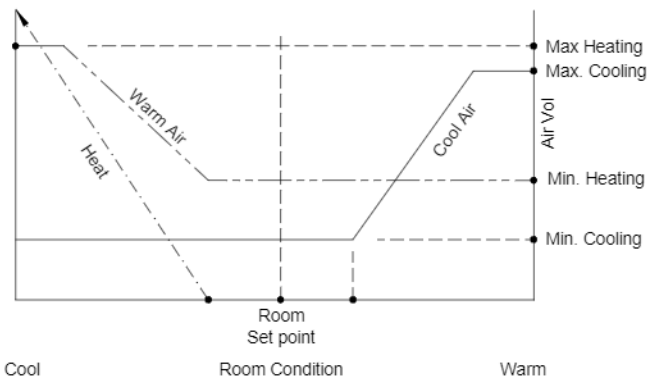
On power up the damper will calibrate closed for 2 minutes.

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

LEGEND

- FACTORY FLOW SENSOR TUBING
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



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.

Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.

PROJECT:		
ENGINEER:	<i>G mm</i>	
CUSTOMER:	264452	SINGLE DUCT PAC PRESSURE INDEPENDENT HEAT/COOL C/O OR COOLING WITH FIELD WIRED ANALOG HEAT
SUBMITTAL DATE:	SPEC. SYMBOL:	