FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

NOTE 1:
T-STAT IS WIRED WITH CAT-5 CABLE WITH MODULAR RJ-45 CONNECTORS. CABLE SUPPLIED WITH T-STAT.

NOTE 2:
SEVERAL T-STAT OPTIONS AVAILABLE. (BLANK FACE, DIAL ADJUST, LCD, WIRELESS BASE, ETC.)

NOTE 3:
TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED

NOTE 4:
WIRE 1-3 ARE PLENUM RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS.

NOTE 5:
USE RJ45 JACKS FOR BACNET CONNECTION, OR 3 POSITION TERMINAL BLOCK FOR 3-WIRE CONNECTION (+, -, NETCOM). NETCOM MUST BE WIRE.

NOTE 6:
CAT-5 BACNET NETWORK CABLE IS PROVIDED BY PRICE WITH EACH CONTROLLER ORDERED WITH THE BACNET OPTION.

NOTE 7:
DO NOT USE GAUGE TAPS!

NOTE 8:
VAV MODULE (PIC-VAV) 25000-115
* REQUIRES PIC VOC CONTROLLER 25000-115

Sequence of Operation -- Variable Volume 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, 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 proportion band, the airflow is maintained at its pre-selected maximum flow 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 proportion band, the airflow is maintained at the pre-selected minimum flow 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 proportion band, the airflow is maintained at its pre-selected maximum flow 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 proportion band, the airflow is maintained at the pre-selected minimum flow setting.

Fan Operation: On a decrease in space temperature into the heating proportion band, the unit fan will energize.

LEGEND

FACTORY FLOW SENSOR TUBING
FACTORY ELECTRICAL WIRING
FIELD ELECTRICAL WIRING

CONTROL GRAPH

Fan On Warm Air Cool Air
Max Heating Max. Cooling
Min. Heating Min. Cooling

Room Set point

Cool Room Condition Warm

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE: 2017/08/11

SPEC. SYMBOL: 249517

FAN POWERED VARIABLE VOLUME PARALLEL FLOW
PIC - PRESSURE INDEPENDENT HEAT/COOL CHANGEOVER OR COOLING ONLY
NO LOCAL REHEAT CONTROL

REV F

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FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

FAN POWERED VARIABLE
VOLUME PARALLEL FLOW
V.V. PRESSURE INDEPENDENT
HEAT/COLD OR COOLING
WITH UP TO 3 STG BINARY REHEAT
FACTORY WIRED

Control Sequence
Number 8801

NOTE 7:
NIGHT SETBACK IS READY ON ALL PIC
CONTROLLERS, SEE NIGHT SETBACK
SEQUENCE (9999 Page 3 of 3) FOR DETAILS.

NOTE 8:
USE RJ45 JACKS FOR BACNET
ACCOUNT, OR 3 POSITION
TERMINAL BLOCK FOR 3-WIRE
CONNECTION (+, -, NETCOM)
NETCOM MUST BE WIRED.

NOTE 6:
CAT-5 BACNET NETWORK
CABLE IS PROVIDED BY PRICE
WITH EACH CONTROLLER
ORDERED WITH THE BACNET
OPTION

NOTE 4:
ALL ELECTRICAL WIRING
 MUST BE EARTH
GROUNDED

NOTE 3:
TRANSFORMER
SECONDARY
COM MUST
BE EARTH
GROUNDED

NOTE 2:
T-STAT OPTIONS
AVAILABLE
(BLACK FACE, DIAL
ADJUST, LCD,
WIRELESS BASE,
Etc.)

NOTE 1:
T-STAT IS WIRED WITH
CAT-5 CABLE WITH
MODULAR RJ-45
CONNECTORS,
CABLE SUPPLIED
WITH T-STAT

FAN 3
1ST STAGE 4
2ND STAGE 5
3RD STAGE 6
+24V HOT 1
-24V COMMON 2

Sequence of Operation -- Variable Volume 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, 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 flow 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
its pre-selected minimum flow 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 flow 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 its
pre-selected minimum flow setting.
Fan Operation: On a decrease in space temperature into the heating
proportional band, the unit fan will energize.
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.
FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

Control Sequence
Number 8802

NOTE 4:
WIRING 1-6 ARE IN PLUMBING RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS.
WIRING 3-5 TO FIELD WRED BINARY 24VAC
REHEAT (PERIMETER RADIATION, BINARY HOT
WATER, ETC.).
MAX 10VA PER CONTACTOR
*STAGES 2 AND 3 OPTIONAL

NOTE 5:
A 4-KAT 5 BACNET NETWORK CABLE IS PROVIDED BY PRICE
WITH EACH CONTROLLER ORDERED WITH THE BACNET
OPTION.

NOTE 6:
DO NOT USE GAUGE TAPS!

NOTE 7:
NIGHT SETBACK IS READY ON ALL PIC
CONTROLLERS. SEE NIGHT SETBACK
SEQUENCE (9999 Page 3 of 3) FOR DETAILS.

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 -- Variable Volume 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, 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.

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.

Fan Operation: On a decrease in space temperature into the heating
proportional band, the unit fan will energize.

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:

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FAN POWERED VARIABLE
VOLUME PARALLEL FLOW
V.V. PRESSURE INDEPENDENT
HEAT/COOL C/O OR COOLING
WITH UP TO 3 STG BINARY REHEAT
FIELD WRED
Sequence of Operation -- Variable Volume 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, 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.

**Fan Operation:** On a decrease in space temperature into the heating proportional band, the unit fan will energize.

**Reheat Operation:** On a decrease in space temperature, the heating valve is modulated to increase heat proportionally to the room demand.
FAN POWERED TERMINAL VARIABLE VOLUME PARALLEL FLOW

Control Sequence Number 8804

NOTE 1: T-STAT IS WIRING WITH CAT-5 CABLE WITH MODULAR RJ-45 CONNECTORS. CABLE SUPPLIED WITH T-STAT

NOTE 2: SEVERAL T-STAT OPTIONS AVAILABLE. (BLANK FACE, DIAL ADJUST, LCD, WIRELESS BASE, ETC.)

NOTE 3: TRANSFORMER SECONDARY COM MUST BE GROUNDED

NOTE 4: WIRES 1-4 ARE IN PLENUM RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS. ANALOG OUT MAX LOAD: 10mA (MIN INPUT IMPEDANCE: 1000 OHMS)

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

NOTE 6: DO NOT USE GAUGE TAPS!

NOTE 7: NIGHT SETBACK IS READY ON ALL PIC CONTROLLERS. SEE NIGHT SETBACK SEQUENCE (9999 Page 3 of 3) FOR DETAILS.

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 -- Variable Volume 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, 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.

Fan Operation: On a decrease in space temperature into the heating proportional band, the unit fan will energize.

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

Project:

Engineer:

Customer:

Submittal Date: SPEC. SYMBOL:

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FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

Control Sequence
Number 8805

NOTE 1:
T-STAT IS WIRED WITH CAT-5 CABLE WITH MODULAR RJ-45 CONNECTORS. CABLE SUPPLIED WITH T-STAT

NOTE 2:
SEVERAL T-STAT OPTIONS AVAILABLE. (BLANK FACE, DIAL ADJUST, LCD, WIRELESS BASE, ETC.)

NOTE 3:
TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED

NOTE 4:
WIRING 1-4 ARE IN PLENUM RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS, WIRE 4 TO FIELD WIRING 0-10V ANALOG MODULATING REHEAT (ANALOG HOT WATER, SCR, ETC.) ANALOG OUT MAX LOAD: 10mA (MIN INPUT IMPEDANCE: 1000 OHMS)

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

NOTE 6:
DO NOT USE GAUGE TAPS!

NOTE 7:
NIGHT SETBACK IS READY ON ALL PIC CONTROLLERS. SEE NIGHT SETBACK SEQUENCE (9999 Page 3 of 3) FOR DETAILS.

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 -- Variable Volume 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, 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.

Fan Operation: On a decrease in space temperature into the heating proportional band, the unit fan will energize.

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

FAN POWERED VARIABLE VOLUME PARALLEL FLOW
V.V. PRESSURE INDEPENDENT HEAT/COOL C/O OR COOLING WITH ANALOG HEAT FIELD WIRED

249522
2017/08/11
REV F
Sequence of Operation -- Variable Volume 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, 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.

**Fan Operation:** On a decrease in space temperature into the heating proportional band, the unit fan will energize.

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**NOTE:**
- **Note 7:** 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 4:** Wires 1-3 are plenum rated cables for 24VAC power and control circuits.
- **Note 2:** Several T-Stat options available, (Blank face, Dial adjust, LCD, Wireless base, etc.)
- **Note 3:** Transformer secondary COM must be earth grounded.
- **Note 6:** Night setback is ready on all PIC controllers, see night setback sequence (9999 Page 3 of 3) for details.

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**PROJECT:**

**ENGINEER:**

**CUSTOMER:**

**SUBMITTAL DATE:** 2017/08/11

**SPEC. SYMBOL:**

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FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

CONTROL SEQUENCE
NUMBER 8851

NOTE 1:
T-STAT IS WIRED WITH CAT-5 CABLE WITH MODULAR RJ-45 CONNECTORS. CABLE SUPPLIED WITH T-STAT

NOTE 2:
T-STAT OPTIONS AVAILABLE: BLANK FACE, DIAL, ADJUST, LCD, WIRELESS BASE, ETC.

NOTE 3:
TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED

NOTE 4:
WIRES 1-6 ARE IN PLENUM RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS. WIRES 3-5 TO FACTORY WIRED 24 VAC BINARY ELECTRIC HEAT 24VAC REHEAT MAX 10A PER CONTACTOR *STAGES 2 AND 3 OPTIONAL

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

NOTE 6:
NIGHT SETBACK IS READY ON ALL PIC CONTROLLERS. SEE NIGHT SETBACK SEQUENCE (9999 Page 3 of 3) FOR DETAILS.

NOTE 7:
USE RJ-45 JACKS FOR BACNET CONNECTION OR 3 POSITION TERMINAL BLOCK FOR 3-WIRE CONNECTION (* - NETCOM) NETCOM MUST BE WIRE.

FAN 3
1ST STAGE 4
2ND STAGE 5
3RD STAGE 6
+24V HOT 1
-24V COM 2

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 -- VARIABLE VOLUME HEAT/Cool CHANGEOVER OR COOLING WITH UP TO 3 STAGE BINARY REHEAT - PRESSURE DEPENDENT

Power up the damper will calibrate closed for 2 minutes.

*If no SAT sensor is present, 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.

FAN OPERATION: On a decrease in space temperature into the heating proportional band, the unit fan will energize.

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: 2017/08/11

SPEC. SYMBOL:

REV. F

FAN POWERED VARIABLE VOLUME PARALLEL FLOW
V.V. PRESSURE DEPENDENT
HEAT/Cool G/O COOLING
WITH UP TO 3 STG BINARY REHEAT
FACTORY WIRED

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FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

Control Sequence Number 8852

NOTE 1:
T-STAT IS WIRED WITH CAT-5 CABLE WITH MODULAR RJ-45 CONNECTORS. CABLE NOT SUPPLIED WITH T-STAT

NOTE 2:
SEVERAL T-STAT OPTIONS AVAILABLE.
(BLANK FACE, DIAL, ADJUST, LCD, WIRELESS BASE, ETC.)

NOTE 3:
TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED

NOTE 4:
WIRE T-4 ARE IN PLUMBING RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS.
WIRES 3-5 TO FIELD WIRED BINARY 24VAC REHEAT (PERIMETER RADIATION, BINARY HOT WATER, ETC.)
MAX 10VA PER CONTACTOR
*STAGES 2 AND 3 ARE OPTIONAL.

NOTE 7:
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 6:
NIGHT SETBACK IS READY ON ALL PIC CONTROLLERS. SEE NIGHT SETBACK SEQUENCE (9999 Page 3 of 3) FOR DETAILS.

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 -- Variable Volume 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, 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.

Fan 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.

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: 2017/08/11

SPEC. SYMBOL:

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FAN POWERED VARIABLE VOLUME PARALLEL FLOW
V.V. PRESSURE DEPENDENT
HEAT/COOL O/C COOLING
WITH UP TO 3 STG BINARY REHEAT
FIELD WIRED
FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

Control Sequence Number 8853

Sequence of Operation -- Variable Volume 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, 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.

Fan Operation: On a decrease in space temperature into the heating
proportional band, the unit fan will energize.

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

LEGEND

FACTORY ELECTRICAL WIRING
FIELD ELECTRICAL WIRING
CONTROL ELECTRICAL WIRING

PROJECT:

ENGINEER:
CUSTOMER:
SUBMITTAL DATE: 2017/08/11
SPEC. SYMBOL: REV F
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 -- Variable Volume 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, 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.

Fan Operation: On a decrease in space temperature into the heating proportional band, the unit fan will energize.
Reheat Operation: On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.
FAN POWERED TERMINAL
VARIABLE VOLUME PARALLEL FLOW

CONTROL SEQUENCE NUMBER 8855

NOTE 1:
T-STAT IS WIRED WITH CAT-5 CABLE WITH MODULAR RJ-45 CONNECTORS. CABLE SUPPLIED WITH T-STAT.

NOTE 2:
SEVERAL T-STAT OPTIONS AVAILABLE. (BLANK FACE, DIAL ADJUST, LCD, WIRELESS BASE, ETC.)

NOTE 3:
TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED.

NOTE 4:
WIRE 1-4 ARE IN PLENUM RATED CABLES FOR 24VAC POWER AND CONTROL CIRCUITS.
- WIRE 4 TO FIELD WIRED 2-10V ANALOG MODULATING REHEAT (ANALOG HOT WATER, SOR, ETC.)
- ANALOG OUT MAX LOAD: 10mA
- (MIN INPUT IMPEDANCE: 1000 OHMS)

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

NOTE 6:
A CAT-5 BACNET NETWORK CABLE IS PROVIDED BY PRICE WITH EACH CONTROLLER ORDERED WITH THE BACNET OPTION.

NOTE 7:
USE RJ45 JACKS FOR BACNET CONNECTION, OR 3 POSITION TERMINAL BLOCK FOR 3-WIRE CONNECTION (+, -, NETCOM). NETCOM MUST BE WIRING.

TO NEXT CONTROLLER (OPT.)
FROM PREVIOUS CONTROLLER (OPT.)

0-10VDC 4
FAN 3
+24VHOT 1
-24VCOM 2

PIC V3 DDC CONTROLLER/AUTOMATION 250000-115

24VAC BINARY OUTPUTS

24VAC POWER

24VAC VOLTAGE

0-10VDC 24VAC

OVERLOAD

SUPPLY AIR TEMPERATURE (SAT) SENSOR (OPT., REQUIRED FOR HCCO)

CONTROL GRAPH

Fan On

Max Heating

Max Cooling

Warm Air

Cool Air

Damper Position

Min Heating

Min Cooling

Room Set point

Room Condition

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

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE: SPEC. SYMBOL:

2017/08/11

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Sequence of Operation – Pressure Control with Discharge Air Temperature Control

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

Pressure Control: On an increase in duct static pressure the controller will close the inlet damper to decrease the amount of air delivered downstream of the box. On a decrease in duct static pressure the controller will open the inlet 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)

Discharge Air Temperature (DAT) Control: When the DAT falls below the set point, the fan will speed up to increase the amount of return air as a first stage of heat control. On an increase in DAT above the set point, the fan will slow down to draw less return air.

Note: Primary air must be cooler than the DAT set point because the controller can only add heat to the primary air.
Sequence of Operation – Pressure Control with Discharge Air Temperature Control

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

**Pressure Control**: On an increase in duct static pressure the controller will close the inlet damper to decrease the amount of air delivered downstream of the box. On a decrease in duct static pressure the controller will open the inlet 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)

**Discharge Air Temperature (DAT) Control**: When the DAT falls below the set point, the fan will speed up to increase the amount of return air as a first stage of heat control. If the fan is at maximum speed and DAT is still below set point, a second stage of analog reheat will be activated and modulated. On an increase in DAT above the set point, the fan will slow down to draw less return air.

**Note**: Primary air must be cooler than the DAT set point because the controller can only add heat to the primary air.
FAN POWERED
DIGITAL CONTROLS

Control Sequence
Number 1562

Sequence of Operation – Pressure Control with Discharge Air Temperature Control
On startup, the controller will calibrate to the fully-closed position for 2 minutes.

Pressure Control: On an increase in duct static pressure the controller will close the inlet damper to decrease the amount of air delivered downstream of the box. On a decrease in duct static pressure the controller will open the inlet 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)

Discharge Air Temperature (DAT) Control: When the DAT falls below the set point, the fan will speed up to increase the amount of return air as a first stage of heat control. If the fan is at maximum speed and DAT is still below set point, a second stage of analog reheat will be activated and modulated. On an increase in DAT above the set point, the fan will slow down to draw less return air.

Note: Primary air must be cooler than the DAT set point because the controller can only add heat to the primary air.

LEGEND

FLOW SENSOR TUBING
FACTORY ELECTRICAL WIRING
FIELD ELECTRICAL WIRING

NOTE 1:
Static pressure set point is factory calibrated to 0.3" W.C. It can be changed in the field using either:
1. BACnet front and
2. Price USB LINKER interface
3. LCD-SETUP tool (or similar LCD T-stat)

NOTE 2:
Measure static pressure approx 2/3 of the way down the main duct. Low port (L) on the pressure sensor must not be obstructed.

PROJECT:

ENGINEER:
CUSTOMER:
SUBMITTAL DATE:

SPEC. SYMBOL:

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Sequence of Operation – Pressure Control with Discharge Air Temperature Control

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

**Pressure Control:** On an increase in duct static pressure the controller will close the inlet damper to decrease the amount of air delivered downstream of the box. On a decrease in duct static pressure the controller will open the inlet 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)

**Discharge Air Temperature (DAT) Control:** When the DAT falls below the set point, the fan will speed up to increase the amount of return air as a first stage of heat control. If the fan is at maximum speed and DAT is still below set point, a second stage of analog reheat will be activated and modulated. On an increase in DAT above the set point, the fan will slow down to draw less return air.

**Note:** Primary air must be cooler than the DAT set point because the controller can only add heat to the primary air.
**VARIABLE VOLUME PARALLEL FLOW NIGHT SETBACK SEQUENCE**

**Control Sequence Number 9999**

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

**NOTE 1:** Outputs connected as per day/occupied sequence.

**ENTRANCE 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 Independant 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. *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 exit night setback. The controller will exit 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.

**SEQUENCE OF OPERATION -- FAN POWERED VARIABLE VOLUME PARALLEL FLOW - 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:**
- **Fan Operation:** On a decrease in space temperature into the heating proportional band, the unit fan will energize.
- **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:**
- **Fan Operation:** On an increase in space temperature into the cooling proportional band, the unit fan typically will not energize. It is possible to configure the controller to energize the fan if using cooling coils.
- **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:**

**ENGINEER:**

**CUSTOMER:**

**SUBMITTAL DATE:**

**SPEC. SYMBOL:**

**269252**

**2017/11/22**

**PRICE®**
**Sequence of Operation -- Variable Volume 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, 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 flow 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 flow 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 flow 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 flow setting.

**Fan Operation:** On a decrease in space temperature into the heating proportional band, the unit fan will energize.
**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 -- Variable Volume 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, 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 flow 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 its pre-selected minimum flow 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 flow 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 its pre-selected minimum flow setting.

**Fan Operation:** On a decrease in space temperature into the heating proportional band, the unit fan will energize.

**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.
**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 -- Variable Volume 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, 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.

**Fan Operation:** On a decrease in space temperature into the heating proportional band, the unit fan will energize.

**Reheat Operation:** On a decrease in space temperature, the controller modulates the 0-10VDC output to increase heat proportionally to the room demand.
Cooling 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. If the space temperature increases greater than the cooling proportional band, the airflow is maintained at its pre-selected maximum flow 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 its pre-selected minimum flow 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. If the space temperature decreases greater than the heating proportional band, the airflow is maintained at its pre-selected maximum flow 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 its pre-selected minimum flow setting.

Fan Operation:
- On a decrease in space temperature into the heating proportional band, the unit fan will energize.

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.
Sequence of Operation -- Variable Volume 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, 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.

Fan Operation:
On a decrease in space temperature into the heating proportional band, the unit fan will energize.

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

Control Sequence Number 7002

Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally open, direct acting cooling application. HW reheat coil is optional.

An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the preselected maximum flow setting.

A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi or less, the VAV box damper is maintained at the preselected minimum flow setting.

At thermostat output pressures between 8 & 13 psi the VAV damper modulates between minimum & maximum cooling flow.

At thermostat output pressures below 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat may also control the optional reheat coil.

Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Normally Open Damper: On failure of the main air supply the damper will fail to the open position.

NOTES:
1. TOTAL AIR CONSUMPTION 0.017 SCFM.

LEGEND

FACTORY PNEUMATIC TUBING
FIELD PNEUMATIC TUBING

CONTROL GRAPH

Fan On
OPEN Max. Cooling
Primary Air
Min. Cooling
CLOSE

Cool
Set Point
Room Condition
Warm

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE: 231784
SPEC. SYMBOL: 2011/11/07

REV A
Sequence of Operation -- Variable volume, intermittent fan, pressure independant, normally open, direct acting cooling application with electric reheat coil.

An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the preselected maximum flow setting.

A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi or less, the VAV box damper is maintained at the preselected minimum flow setting.

At thermostat output pressures between 8 & 13 psi the VAV damper modulates between minimum & maximum cooling flow.

At thermostat output pressures below 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control the electric reheat coil.

Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Normally Open Damper: On failure of the main air supply the damper will fail to the open position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally closed, direct acting cooling application. HW reheat coil is optional.

An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the pre-selected maximum flow setting.

A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi or less, the VAV box damper is maintained at the pre-selected minimum flow setting.

At thermostat output pressures between 8 & 13 psi the VAV damper modulates between minimum & maximum cooling flow.

At thermostat output pressures below 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat may also control the optional reheat coil.

Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Normally Closed Damper: On failure of the main air supply the damper will fail to the closed position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally closed, direct acting cooling application with electric reheat coil.

An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the preselected maximum flow setting.

A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi or less, the VAV box damper is maintained at the preselected minimum flow setting.

At thermostat output pressures between 8 & 13 psi the VAV damper modulates between minimum & maximum cooling flow.

At thermostat output pressures below 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control the electric reheat coil.

Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Normally Closed Damper: On failure of the main air supply the damper will fail to the closed position.
Sequence of Operation – Variable volume, intermittent fan, pressure independent, normally open, direct acting cooling application with day-night fan control, and primary damper close-off at night. HW reheat coil is optional.

Day Operation: Occurs when the main air supply is at 18 psi or lower.
An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the pre-selected maximum flow setting.
A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermostat output pressures below 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space.
The thermostat may also control an optional reheat coil.
Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Night Operation: Occurs when the main air supply is at 23 psi or higher.
The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

Normally Open Damper: On failure of the main air supply the damper will fail to the open position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally open, direct acting cooling application with electric reheat coil, day-night fan control, and primary damper close-off at night.

Day Operation: Occurs when the main air supply is at 18 psi or lower. An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the pre-selected maximum flow setting. A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermostat output pressures below 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control an electric reheat coil. Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Night Operation: Occurs when the main air supply is at 23 psi or higher. The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

Normally Open Damper: On failure of the main air supply the damper will fail to the open position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally closed, direct acting cooling application with day-night fan control, and primary damper close-off at night. HW reheat coil is optional.

Day Operation: Occurs when the main air supply is at 18 psi or lower. An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the pre-selected maximum flow setting. A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermostat output pressures below 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat may also control an optional reheat coil. Airflow is held constant at any given thermostat output pressure between 8-13 psi regardless of changes in inlet duct static pressure.

Night Operation: Occurs when the main air supply is at 23 psi or higher. The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

Normally Closed Damper: On failure of the main air supply the damper will fail to the closed position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally closed, direct acting cooling application with electric reheat coil, day-night fan control, and primary damper close-off at night.

Day Operation: Occurs when the main air supply is at 18 psi or lower. An increase in space temperature increases the thermostat output pressure. When the thermostat output increases to 13 psi or more, the VAV box damper is maintained at the pre-selected maximum flow setting. A decrease in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 8 psi, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermostat output pressures below 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control an electric reheat coil. Airflow is held constant at any given thermostat output pressure between 8-13 psi regardless of changes in inlet duct static pressure.

Night Operation: Occurs when the main air supply is at 23 psi or higher. The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

Normally Closed Damper: On failure of the main air supply the damper will fail to the closed position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independant, normally open, reverse acting cooling application. HW reheat coil is optional.
An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the preselected maximum flow setting.
An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the preselected maximum flow setting.
A decrease in space temperature increases the thermostat output pressure. When the thermostat output increases to 8 psi or more, the VAV box damper is maintained at the preselected minimum flow setting.
At thermostat output pressures between 3 & 8 psi the VAV damper modulates between minimum & maximum cooling flow.
At thermostat output pressures above 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat may also control the optional reheat coil.
Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.
**Normally Open Damper:** On failure of the main air supply the damper will fail to the open position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independant, normally open, reverse acting cooling application with electric reheat coil.

An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the pre-selected maximum flow setting.

A decrease in space temperature increases the thermostat output pressure. When the thermostat output increases to 8 psi or more, the VAV box damper is maintained at the pre-selected minimum flow setting.

At thermostat output pressures between 3 & 8 psi the VAV damper modulates between minimum & maximum cooling flow.

At thermostat output pressures above 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control the electric reheat coil.

Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

**Normally Open Damper:** On failure of the main air supply the damper will fail to the open position.
Sequence of Operation — Variable volume, intermittent fan, pressure independant, normally closed, reverse acting cooling application. HW reheat coil is optional. An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the pre-selected maximum flow setting. A decrease in space temperature increases the thermostat output pressure. When the thermostat output increases to 8 psi or more, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermal output pressures between 3 & 8 psi the VAV damper modulates between minimum & maximum cooling flow. At thermal output pressures above 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat may also control the optional reheat coil. Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure. **Normally Closed Damper:** On failure of the main air supply the damper will fail to the closed position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independant, normally closed, reverse acting cooling application with electric reheat coil.

An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the preselected maximum flow setting. A decrease in space temperature increases the thermostat output pressure. When the thermostat output increases to 8 psi or more, the VAV box damper is maintained at the preselected minimum flow setting.

At thermostat output pressures between 3 & 8 psi the VAV damper modulates between minimum & maximum cooling flow.

At thermostat output pressures above 8 psi the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control the electric reheat coil.

Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Normally Closed Damper: On failure of the main air supply the damper will fail to the closed position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally open, reverse acting cooling application with day-night fan control, and primary damper close-off at night. HW reheat coil is optional.

Day Operation: Occurs when the main air supply is at 18 psi or lower. An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the pre-selected maximum flow setting. A decrease in space temperature increases the thermostat output pressure. When the thermostat output increases to 8 psi, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermostat output pressures above 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat may also control an optional reheat coil. Airflow is held constant at any given thermostat output pressure between 3-8 psi regardless of changes in inlet duct static pressure.

Night Operation: Occurs when the main air supply is at 23 psi or higher. The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

Normally Open Damper: On failure of the main air supply the damper will fail to the open position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally open, reverse acting cooling application with electric reheat coil, day-night fan control, and primary damper close-off at night.

**Day Operation:** Occurs when the main air supply is at 18 psi or lower.
An increase in space temperature decreases the thermostat output pressure.
When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the pre-selected maximum flow setting.
A decrease in space temperature increases the thermostat output pressure.
When the thermostat output increases to 8 psi, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermostat output pressures above 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control an electric reheat coil.
Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

**Night Operation:** Occurs when the main air supply is at 23 psi or higher.
The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

**Normally Open Damper:** On failure of the main air supply the damper will fail to the open position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally closed, reverse acting cooling application with day-night fan control, and primary damper close-off at night. HW reheat coil is optional.

Day Operation: Occurs when the main air supply is at 18 psi or lower. An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the pre-selected maximum flow setting. A decrease in space temperature increases the thermostat output pressure. When the thermostat output increases to 8 psi, the VAV box damper is maintained at the pre-selected minimum flow setting. At thermostat output pressures above 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat may also control an optional reheat coil. Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Night Operation: Occurs when the main air supply is at 23 psi or higher. The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

Normally Closed Damper: On failure of the main air supply the damper will fail to the closed position.
Sequence of Operation -- Variable volume, intermittent fan, pressure independent, normally closed, reverse acting cooling application with electric reheat coil, day-night fan control, and primary damper close-off at night.

Day Operation: Occurs when the main air supply is at 18 psi or lower. An increase in space temperature decreases the thermostat output pressure. When the thermostat output decreases to 3 psi or less, the VAV box damper is maintained at the pre-selected minimum flow setting. A decrease in space temperature increases the thermostat output pressure. When the thermostat output increases to 8 psi, the VAV box damper is maintained at the pre-selected maximum flow setting. At thermostat output pressures above 8 psi, the minimum flow setting is maintained, and the thermostat will energize the unit fan to provide recirculated air to the space. The thermostat will also control an electric reheat coil. Airflow is held constant at any given thermostat output pressure regardless of changes in inlet duct static pressure.

Night Operation: Occurs when the main air supply is at 23 psi or higher. The VAV damper is held in the closed position. The thermostat will control the unit fan and optional reheat coil as described above to maintain the thermostat setting.

Normally Closed Damper: On failure of the main air supply the damper will fail to the closed position.