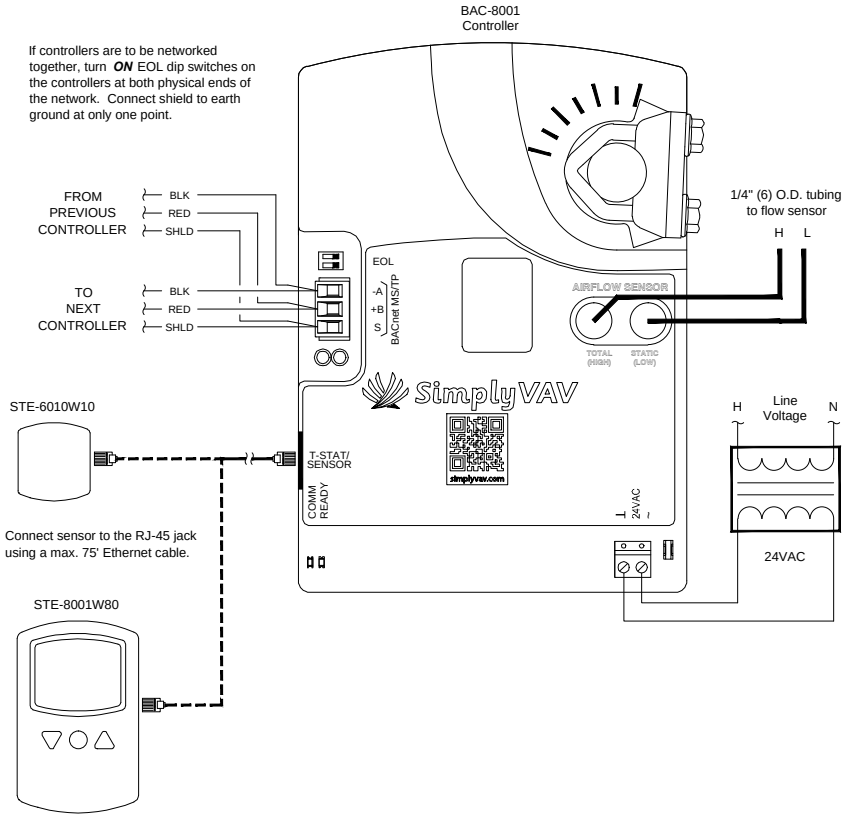
Single Duct Variable Air Volume (VAV) Terminal Unit
Cooling Only
Pressure Independent
Model: BAC-8001

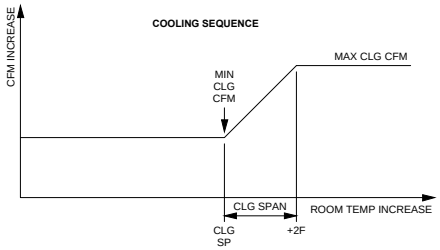


NOTES:

1. Controller settings must be initially set using an STE-8XXX.
2. See SimplyVAV.com for accessories and additional details.

SEQUENCE OF OPERATION:

1. As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. Below cooling setpoint, minimum cooling airflow is maintained.



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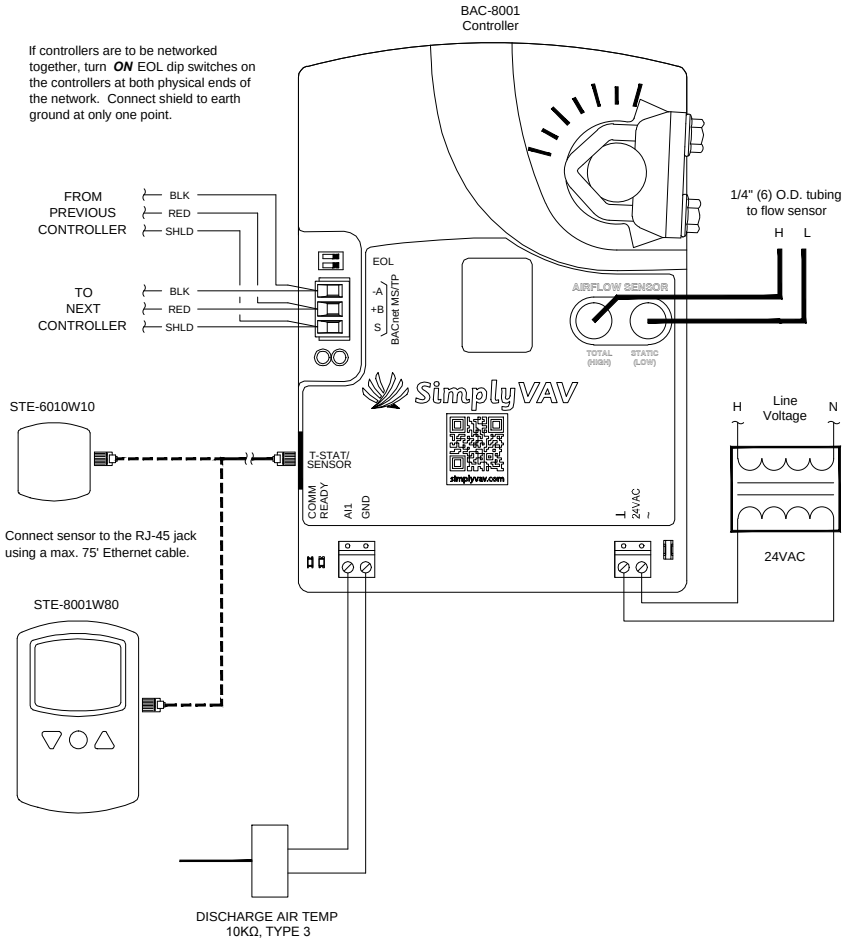
DRAWING TITLE: COOLING ONLY VAV		
CREATION DATE:	3/7/2014	FILENAME: SS14001A_SimplyVAV_CLG
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Cooling/Heating with Changeover
Pressure Independent
Model: BAC-8001

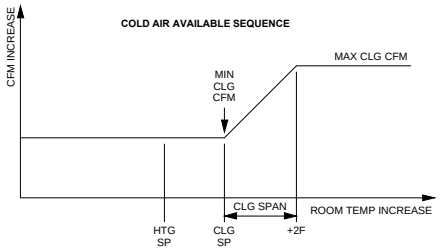


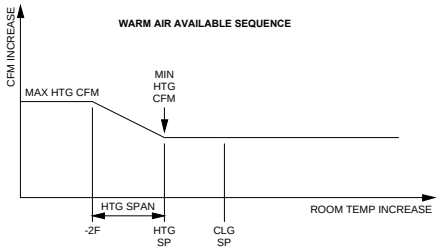
External connections::

AI1 = DAT SENSOR

NOTES:

1. Controller settings must be initially set using an STE-8XXX.
2. See SimplyVAV.com for accessories and additional details.





SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. Below cooling setpoint, minimum cooling airflow is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.

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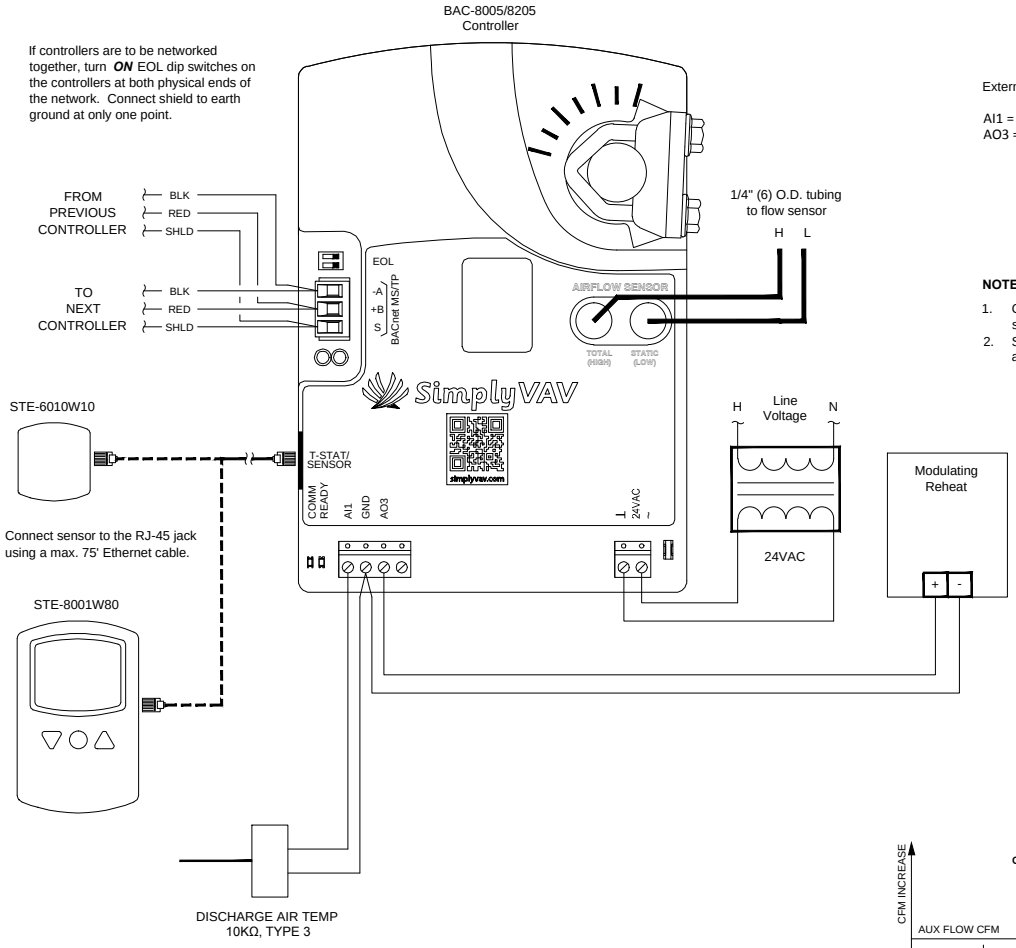
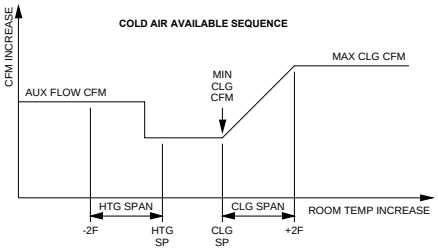
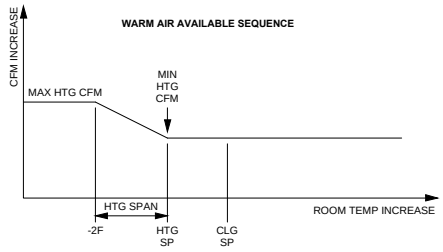
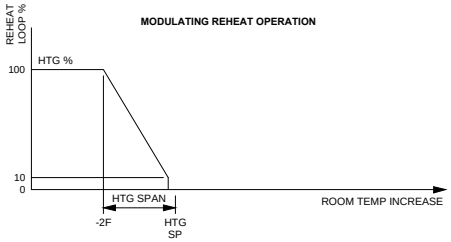
DRAWING TITLE: COOLING/HEATING VAV		
CREATION DATE:	3/7/2014	FILENAME: SS14002A_SimplyVAV_CLG_HTG
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Cooling with Modulating Reheat
Pressure Independent
Model: BAC-8005/8205









SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. As the space temp drops below the heating setpoint, the heating output modulates open. As the space temp rises toward the heating setpoint, the heating output modulates closed. If the heating loop is less than 10%, the heating output remains at zero percent.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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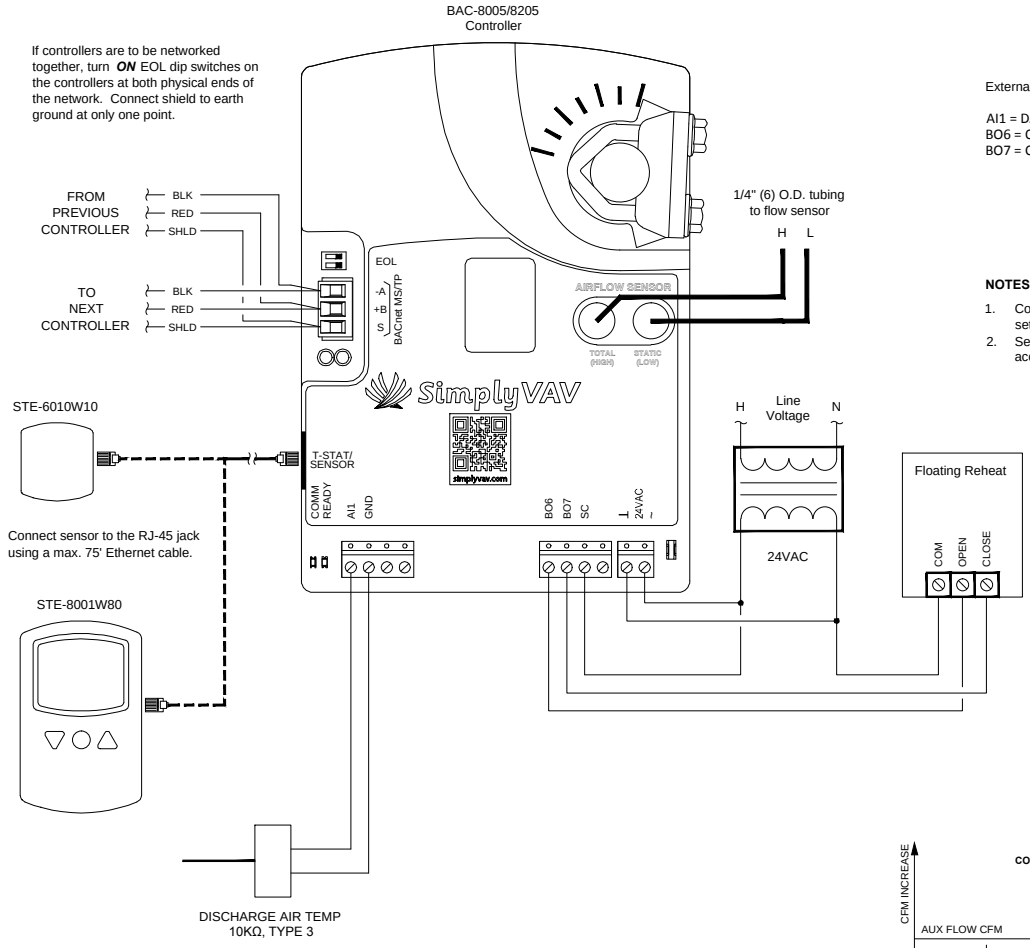
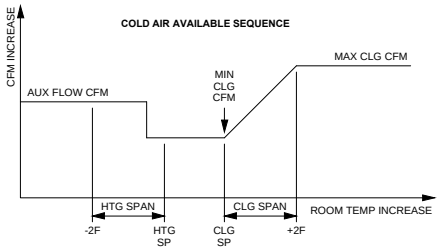
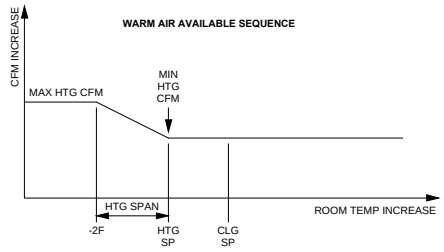
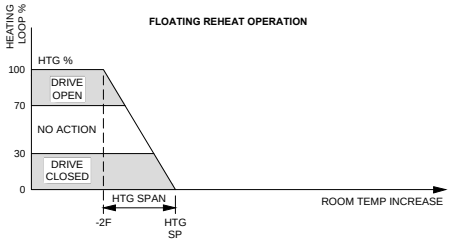
DRAWING TITLE: COOLING VAV W/MODULATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14003A_SimplyVAV_CLG_MOD_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Cooling with Floating Reheat
Pressure Independent
Model: BAC-8005/8205









SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. As the space temp drops below the heating setpoint (heating loop is greater than 70%), the valve is driven open. As the space temp rises back toward the heating setpoint (heating loop is less than 30%), the valve is driven closed. If the loop is in between, there is no valve action.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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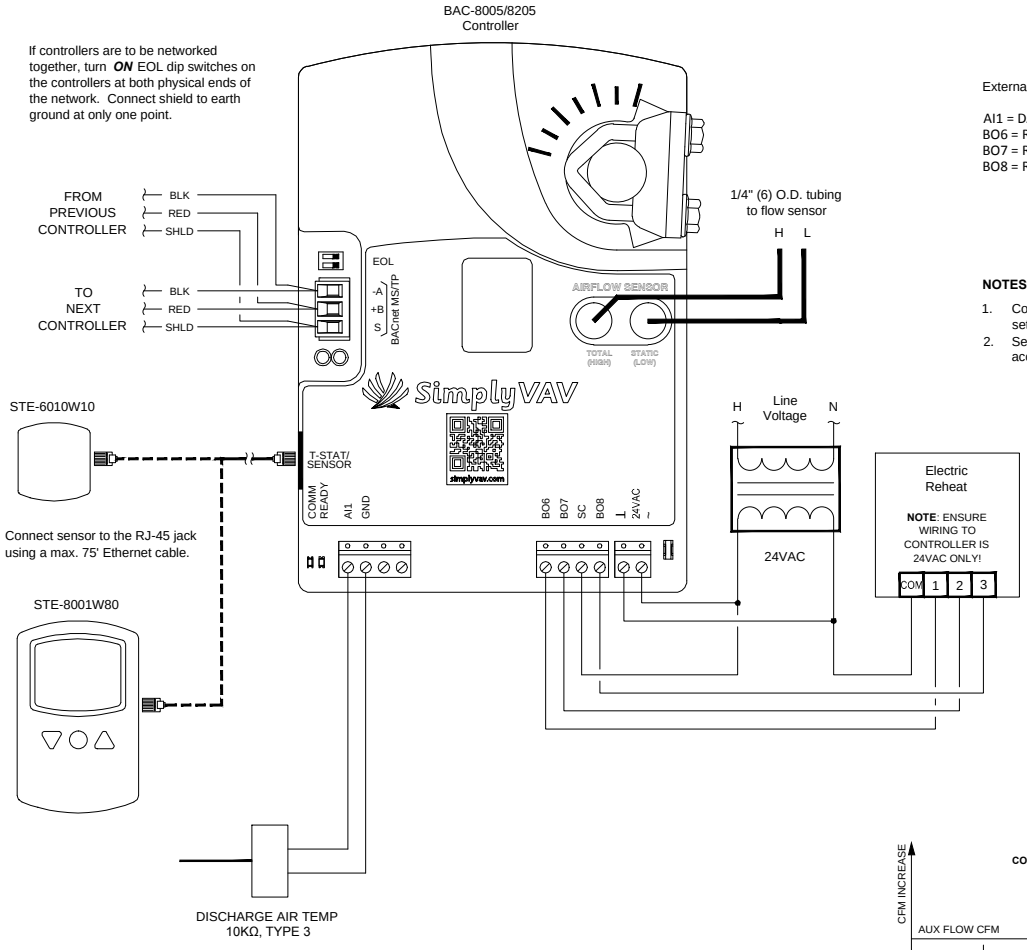
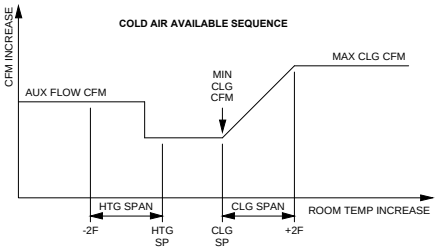
DRAWING TITLE: COOLING VAV W/FLOATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14004A_SimplyVAV_CLG_FLOAT_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

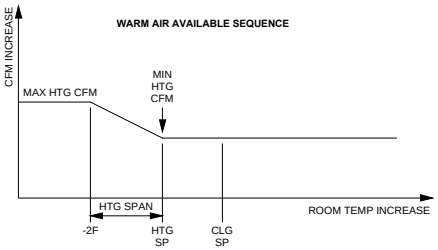
Single Duct Variable Air Volume (VAV) Terminal Unit
Cooling with Staged Electric Reheat
Pressure Independent
Model: BAC-8005/8205

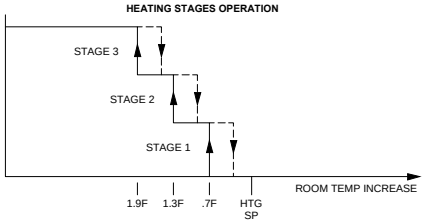




SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. As the space temp drops below the heating setpoint, stages 1, 2 and 3 of electric reheat are energized respectively. As the space temp rises back toward the heating setpoint, heating stages 3, 2 and 1 turn off respectively.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.





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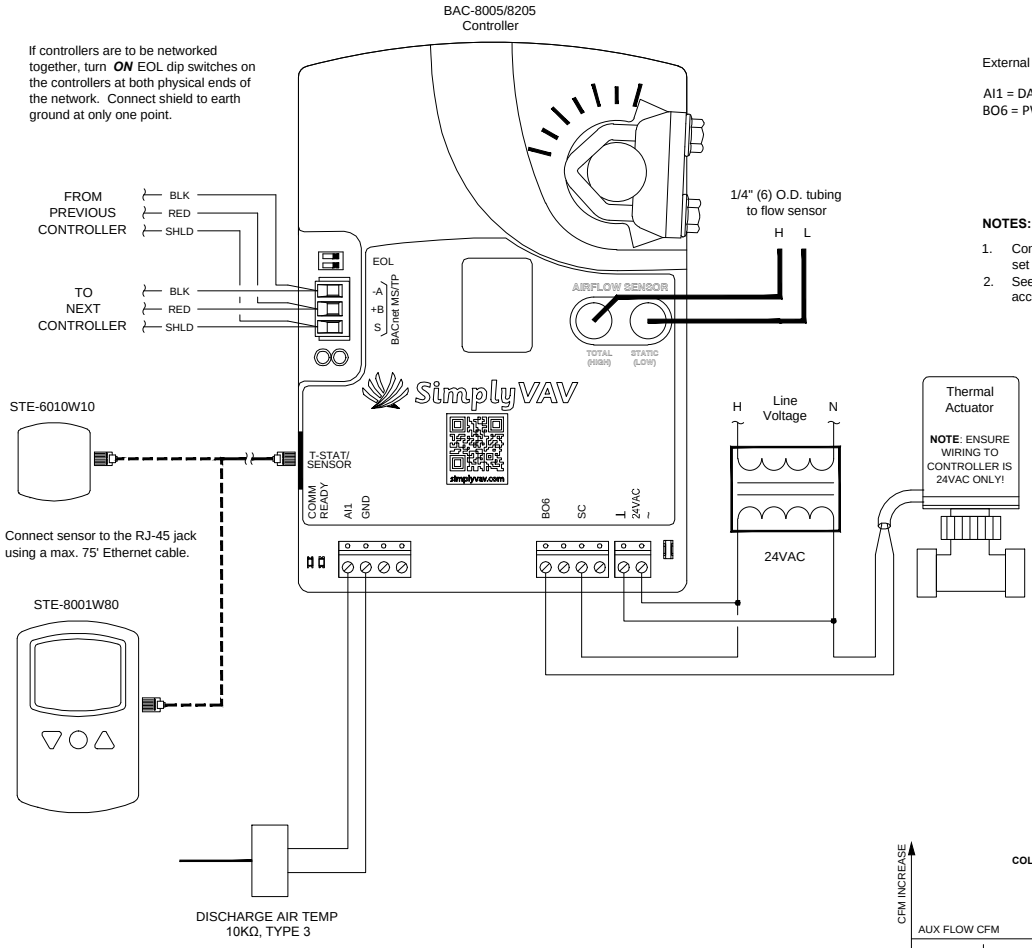
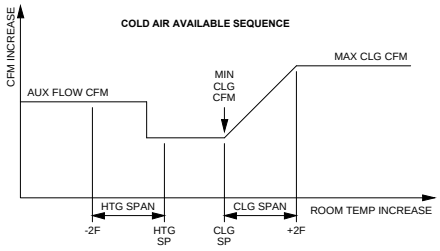
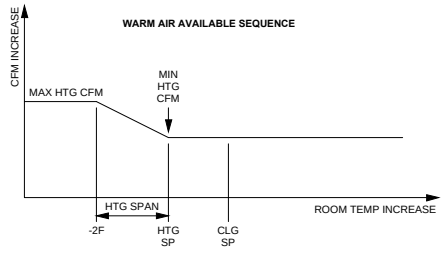
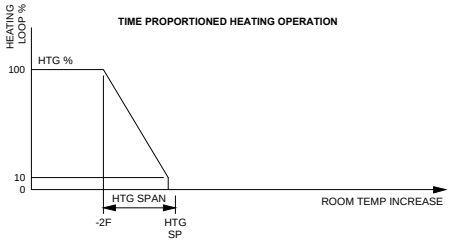
DRAWING TITLE: COOLING VAV W/STAGED REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14005A_SimplyVAV_CLG_3STAGE_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Cooling with Time-Proportioned Reheat (PWM)
Pressure Independent
Model: BAC-8005/8205









SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. As the space temp drops below the heating setpoint, the heating output is controlled in a 10 second based, time-proportioned manner. If the heating loop is less than 10%, the heating output remains at zero percent.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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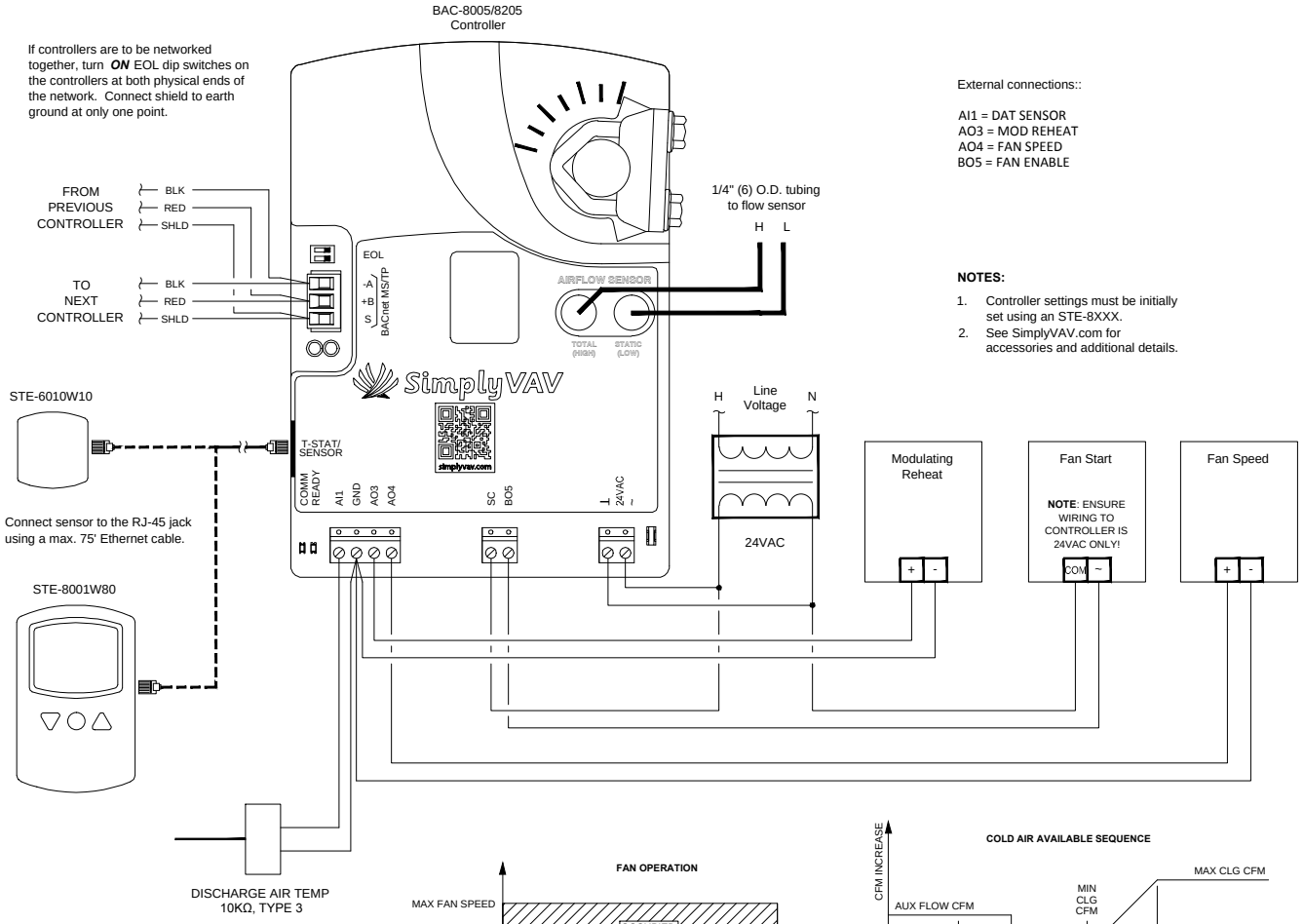
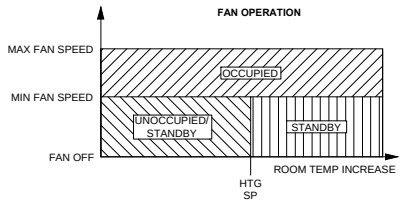
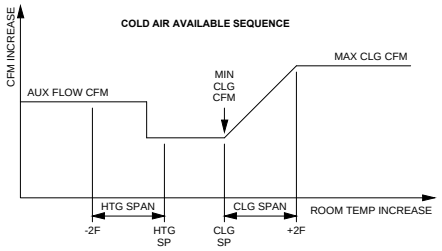
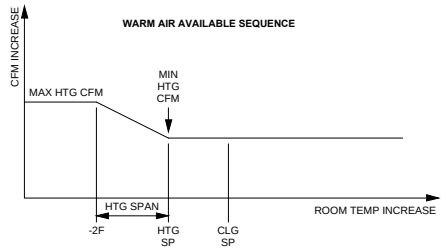
DRAWING TITLE: COOLING VAV W/PWM REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14006A_SimplyVAV_CLG_PWM_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

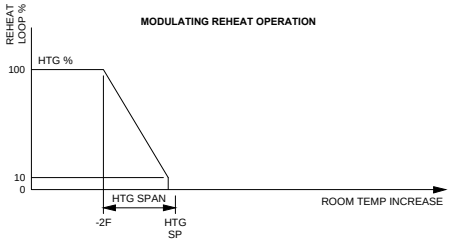
Single Duct Variable Air Volume (VAV) Terminal Unit
Series Fan Powered with Modulating Reheat
Pressure Independent
Model: BAC-8005/8205











SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started during occupied and standby modes. During unoccupied mode, the fan starts on a call for heating only. The fan stops only during unoccupied mode when there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint, the heating output modulates open. As the space temp rises toward the heating setpoint, the heating output modulates closed. If the heating loop is less than 10%, the heating output remains at zero percent.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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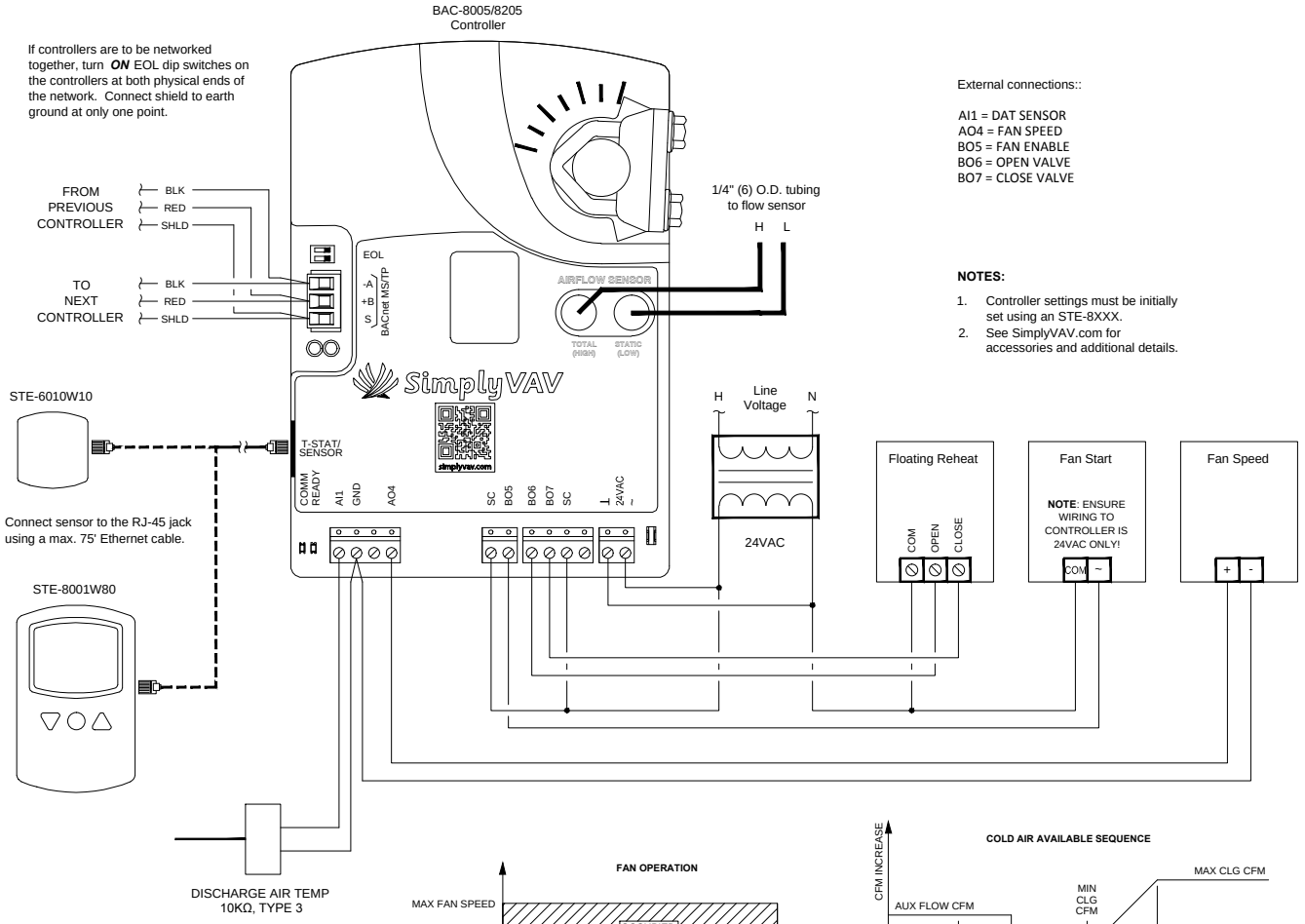
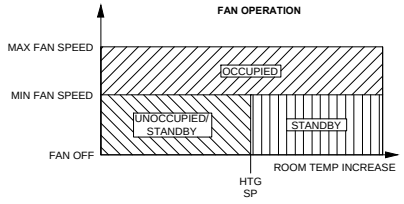
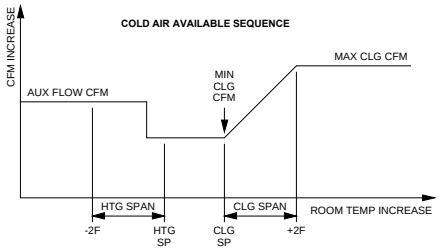
DRAWING TITLE: SERIES FPB W/MODULATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14007A_SimplyVAV_SER_FAN_MOD_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Series Fan Powered with Floating Reheat
Pressure Independent
Model: BAC-8005/8205

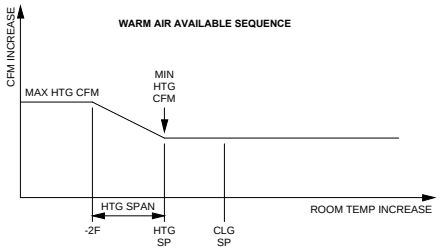


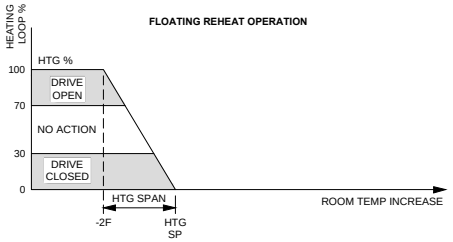




SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started during occupied and standby modes. During unoccupied mode, the fan starts on a call for heating only. The fan stops only during unoccupied mode when there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint (heating loop is greater than 70%), the valve is driven open. As the space temp rises back toward the heating setpoint (heating loop is less than 30%), the valve is driven closed. If the loop is in between, there is no valve action.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.





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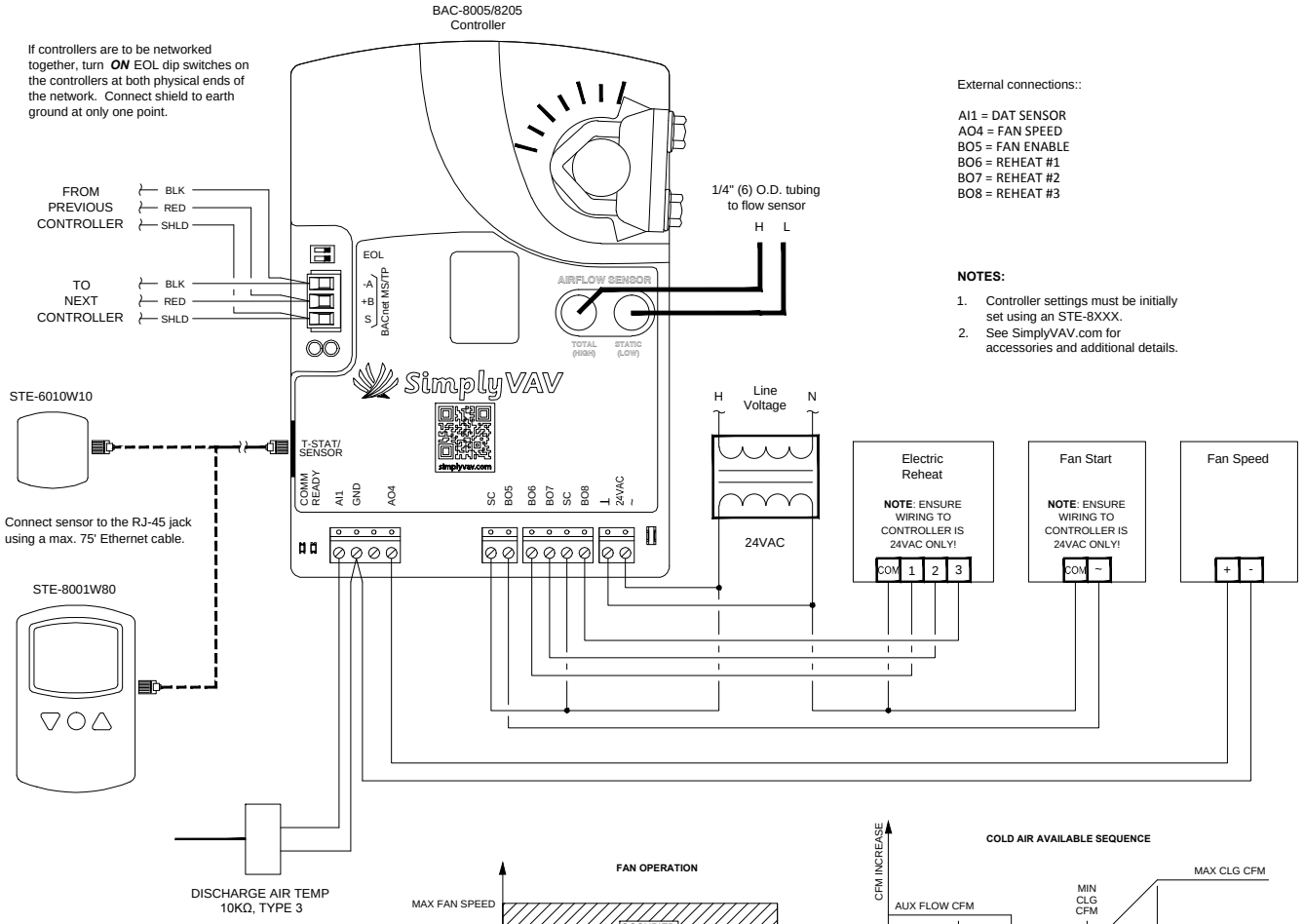
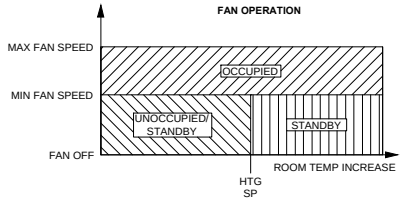
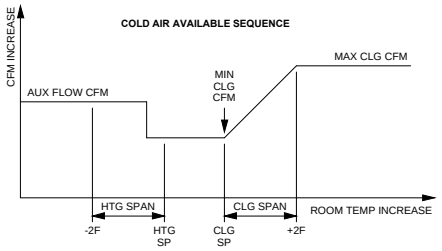
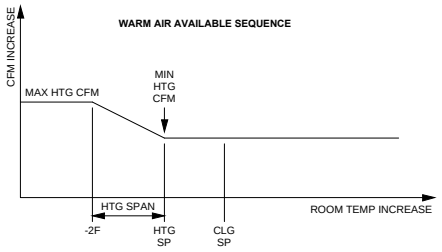
DRAWING TITLE: SERIES FPB W/FLOATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14008A_SimplyVAV_SER_FAN_FLOAT_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

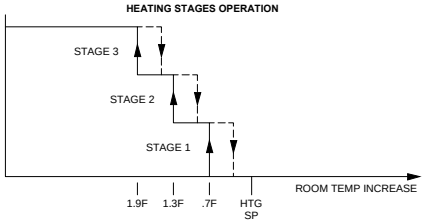
Single Duct Variable Air Volume (VAV) Terminal Unit
Series Fan Powered with Staged Electric Reheat
Pressure Independent
Model: BAC-8005/8205











SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started during occupied and standby modes. During unoccupied mode, the fan starts on a call for heating only. The fan stops only during unoccupied mode when there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint, stages 1, 2 and 3 of electric reheat are energized respectively. As the space temp rises back toward the heating setpoint, heating stages 3, 2 and 1 turn off respectively.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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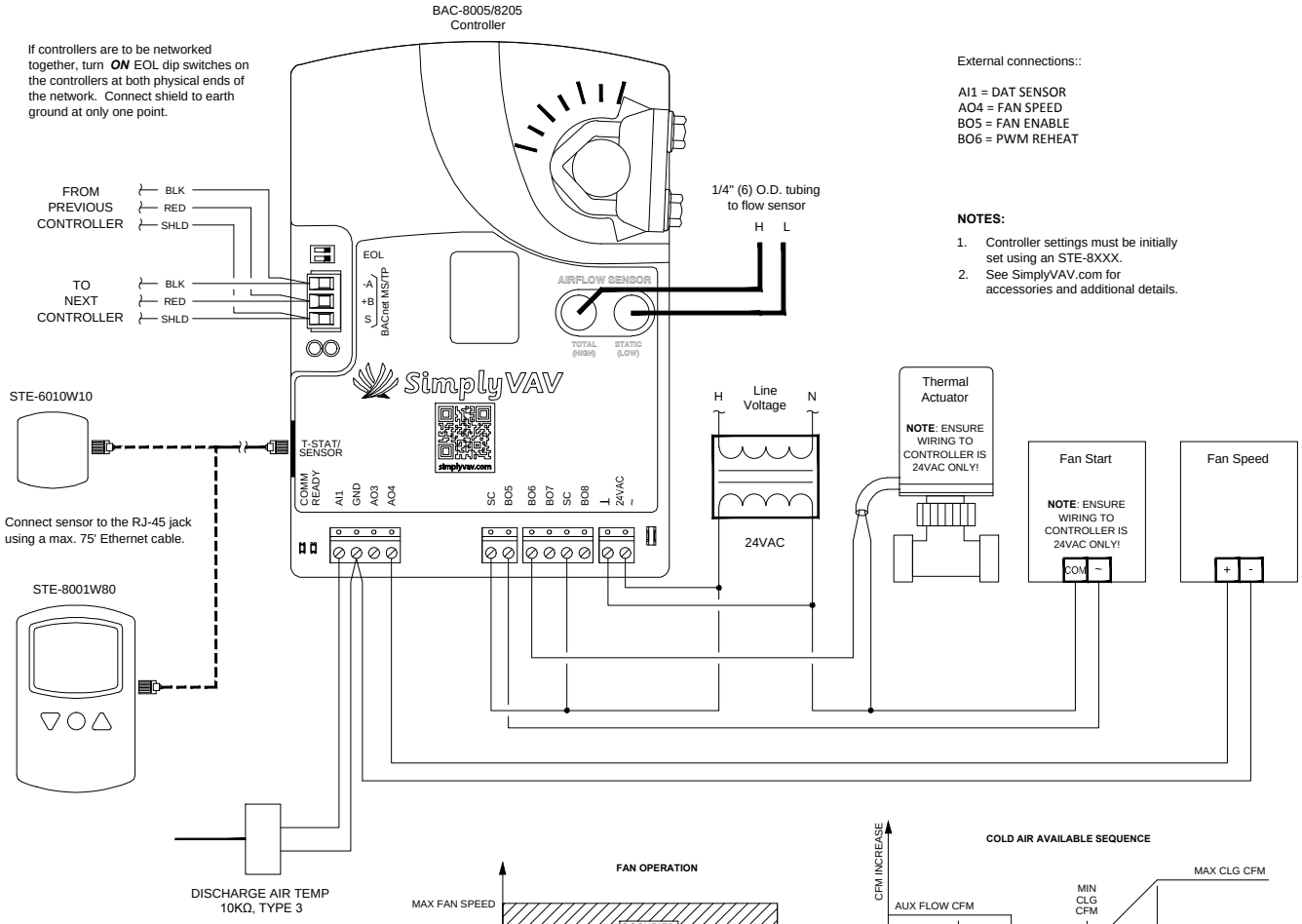
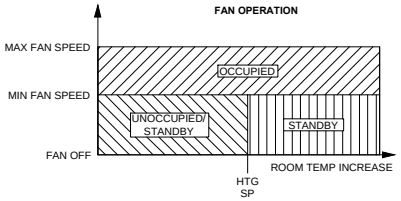
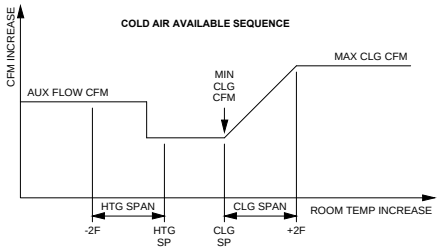
DRAWING TITLE: SERIES FPB W/STAGED REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14009A_SimplyVAV_SER_FAN_3STAGE_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Series Fan Powered with Time-Proportioned Reheat (PWM)
Pressure Independent
Model: BAC-8005/8205

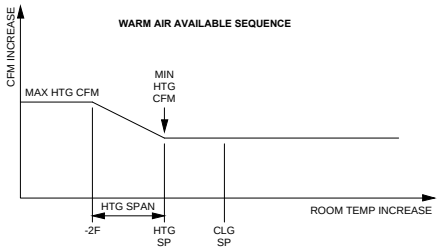


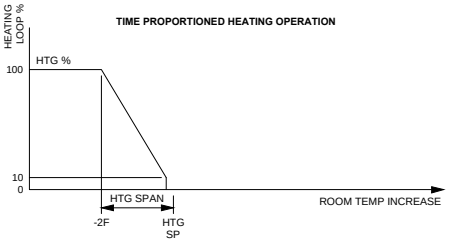




SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started during occupied and standby modes. During unoccupied mode, the fan starts on a call for heating only. The fan stops only during unoccupied mode when there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint, the heating output is controlled in a 10 second based, time-proportioned manner. If the heating loop is less than 10%, the heating output remains at zero percent.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.





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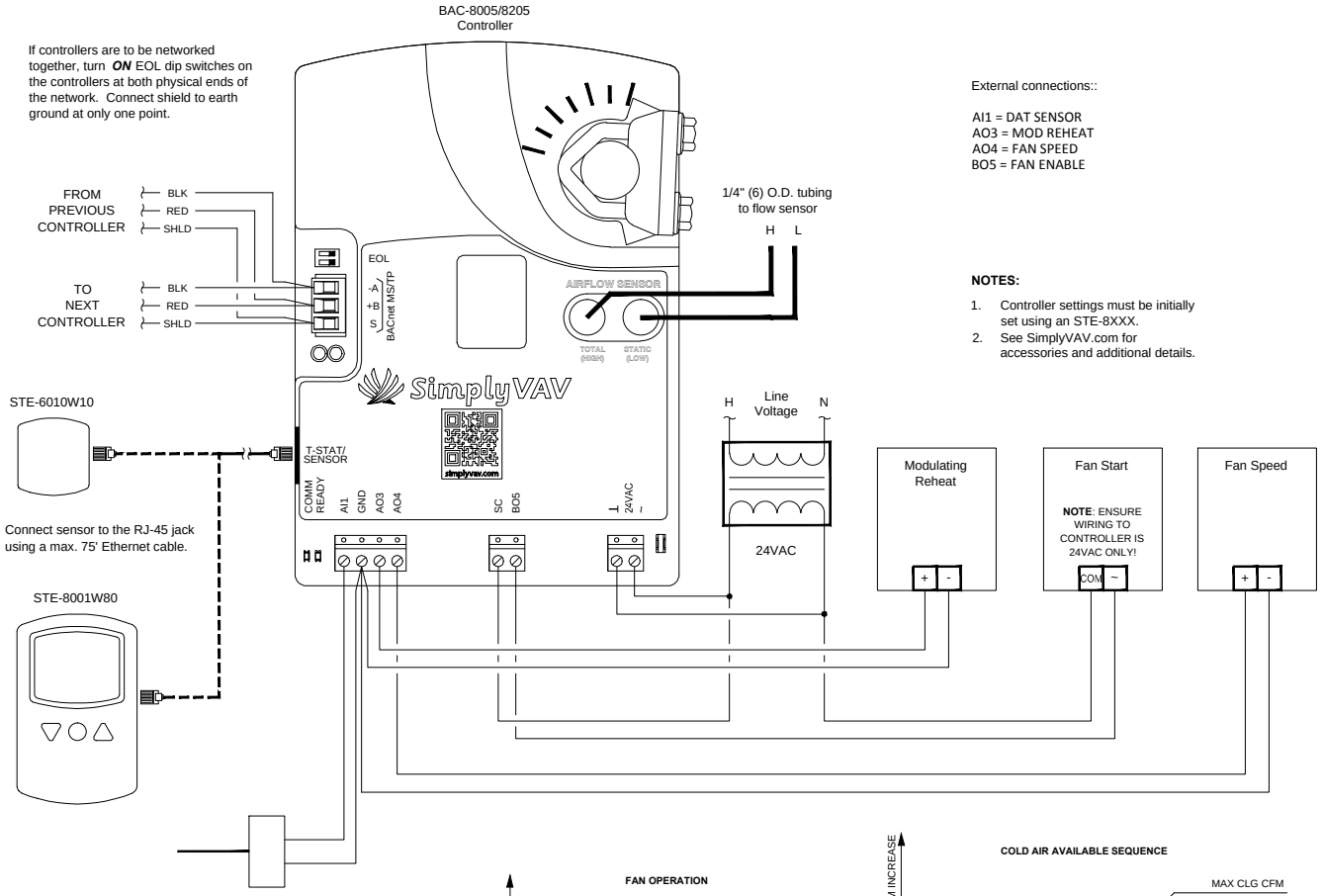
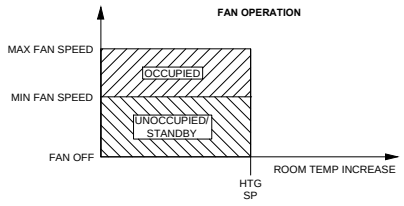
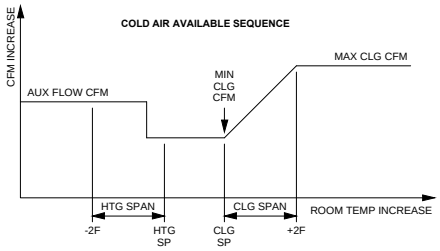
DRAWING TITLE: SERIES FPB W/PWM REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14010A_SimplyVAV_SER_FAN_PWM_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Parallel Fan Powered with Modulating Reheat
Pressure Independent
Model: BAC-8005/8205

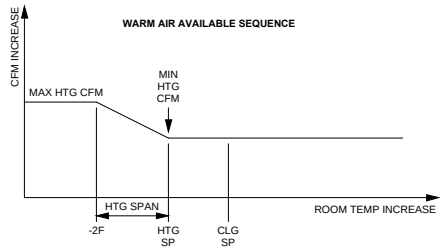


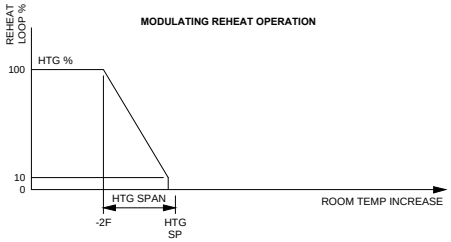




SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started only on a call for heat. The fan stops if there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint, the heating output modulates open. As the space temp rises toward the heating setpoint, the heating output modulates closed. If the heating loop is less than 10%, the heating output remains at zero percent.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.





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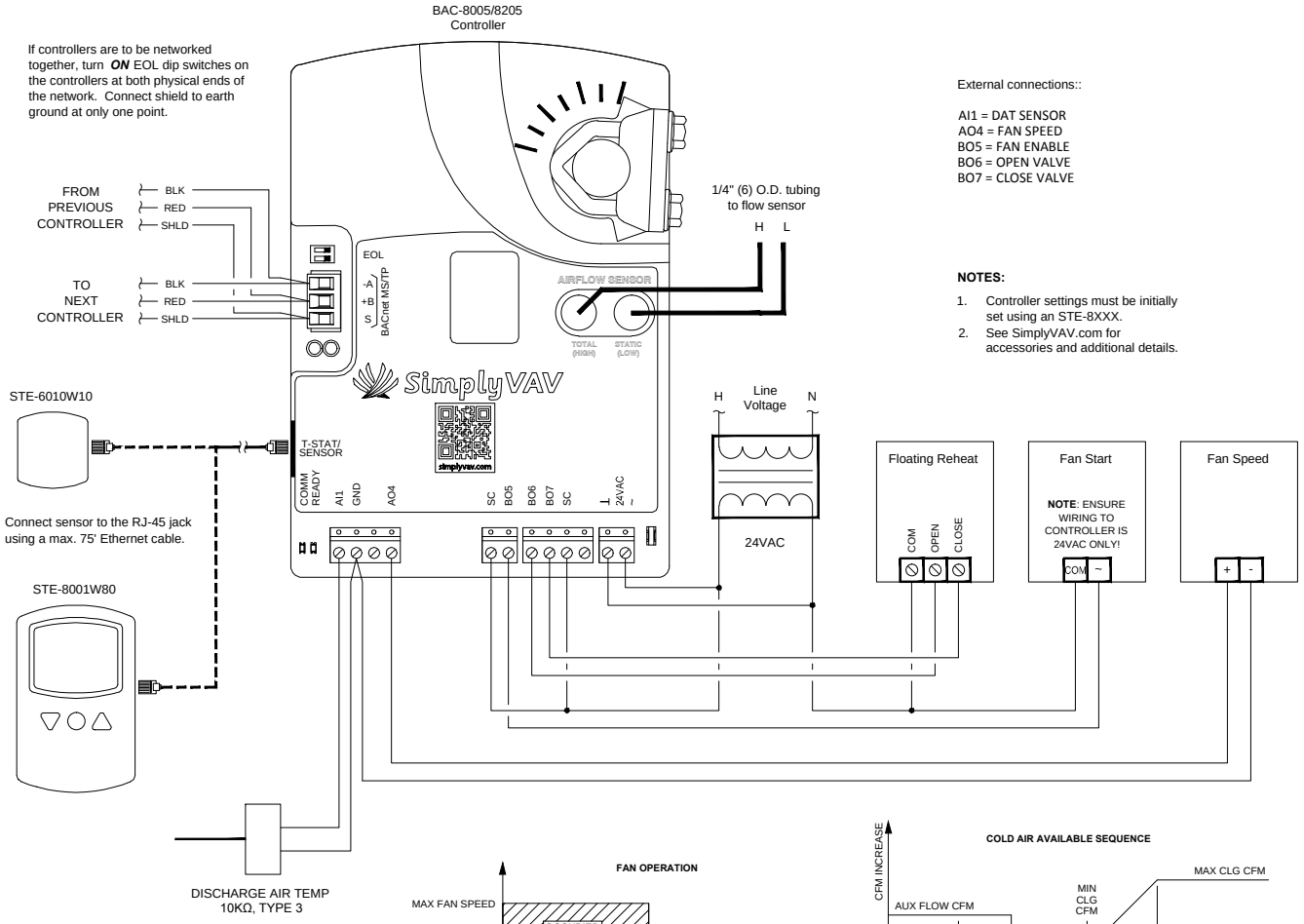
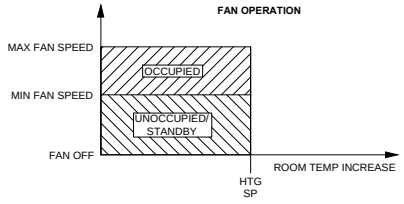
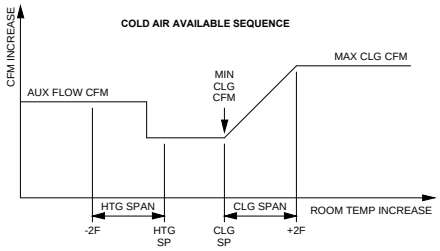
DRAWING TITLE: PARALLEL FPB W/MODULATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14011A_SimplyVAV_PAR_FAN_MOD_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Parallel Fan Powered with Floating Reheat
Pressure Independent
Model: BAC-8005/8205

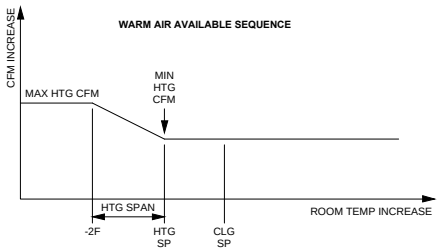


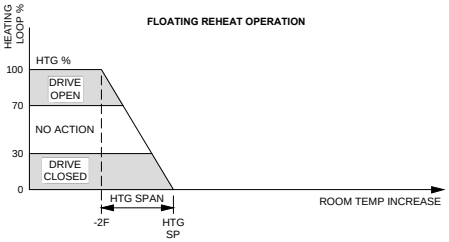




SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started only on a call for heat. The fan stops if there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint (heating loop is greater than 70%), the valve is driven open. As the space temp rises back toward the heating setpoint (heating loop is less than 30%), the valve is driven closed. If the loop is in between, there is no valve action.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.





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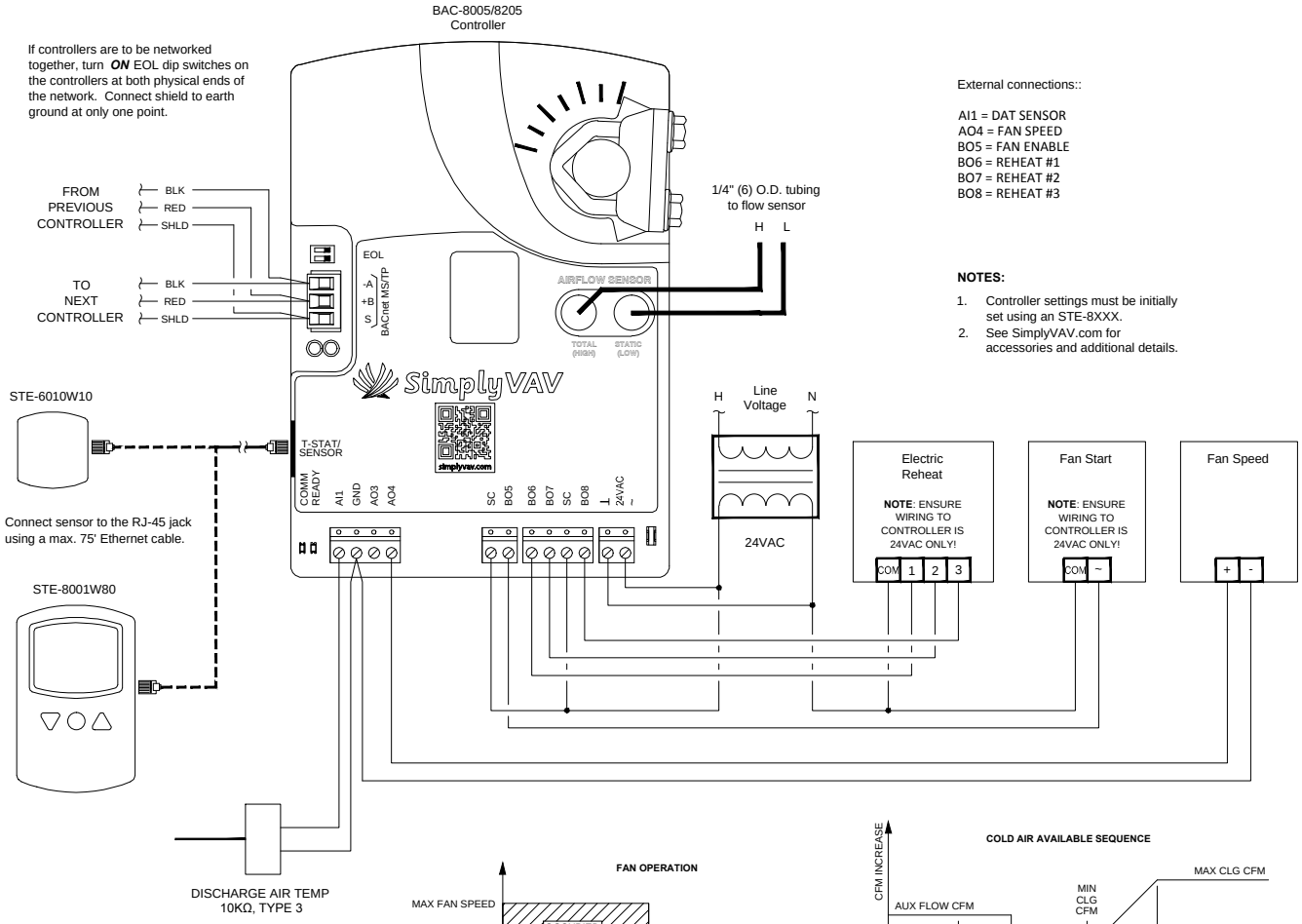
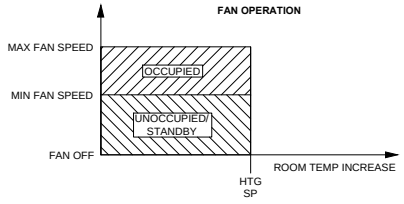
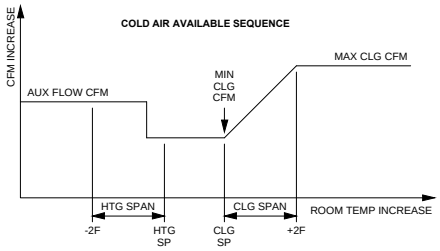
DRAWING TITLE: PARALLEL FPB W/FLOATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14012A_SimplyVAV_PAR_FAN_FLOAT_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Parallel Fan Powered with Staged Electric Reheat
Pressure Independent
Model: BAC-8005/8205

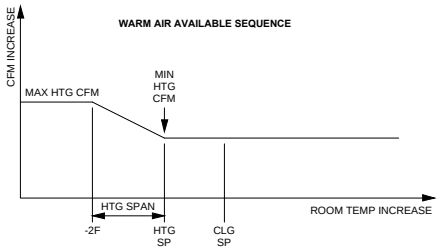


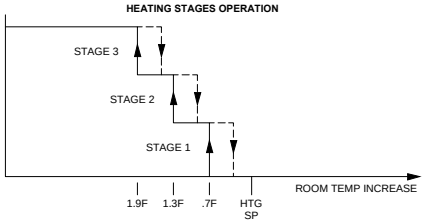




SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started only on a call for heat. The fan stops if there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint, stages 1, 2 and 3 of electric reheat are energized respectively. As the space temp rises back toward the heating setpoint, heating stages 3, 2 and 1 turn off respectively.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.





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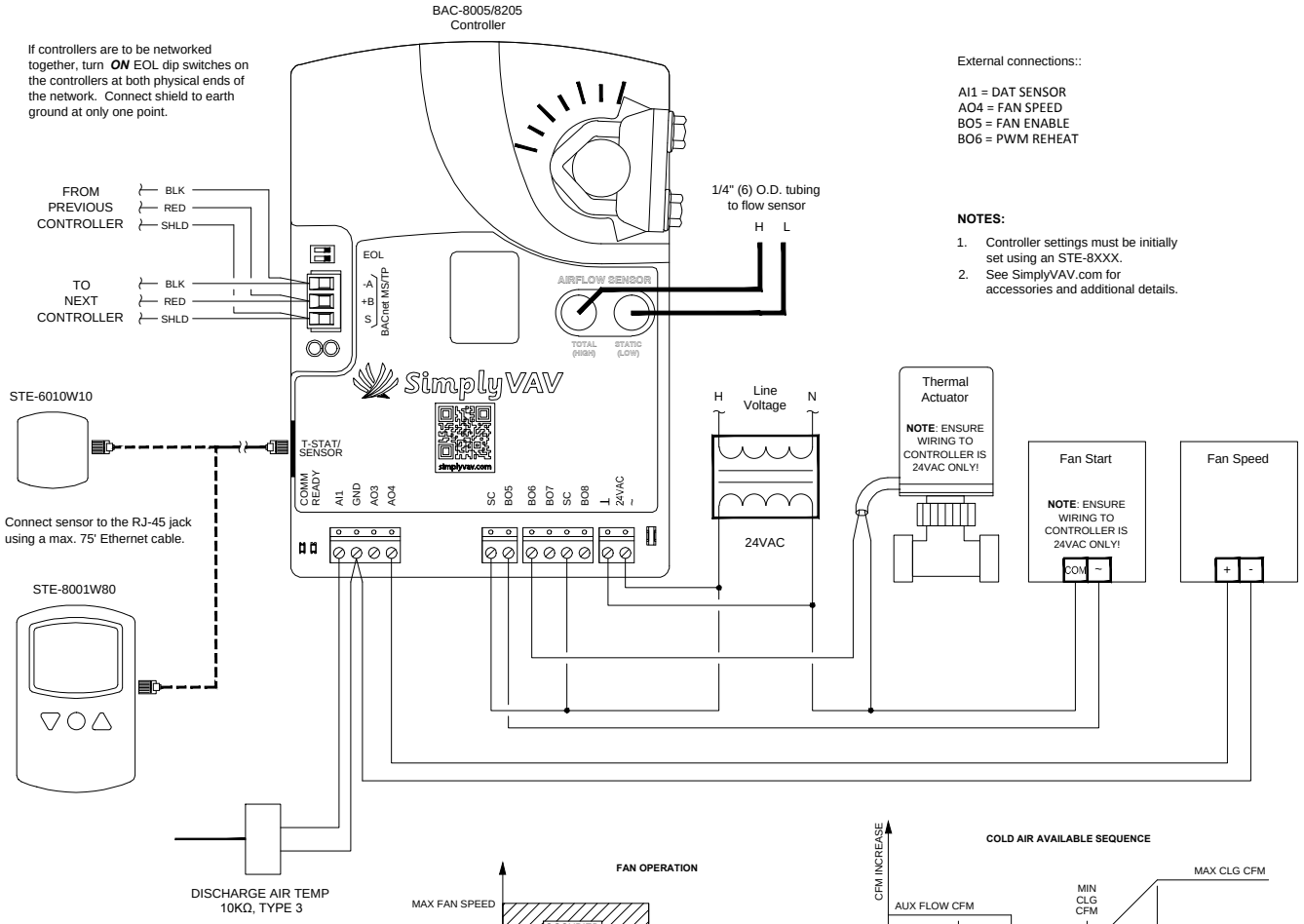
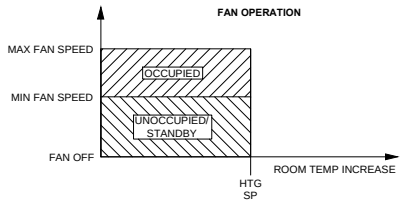
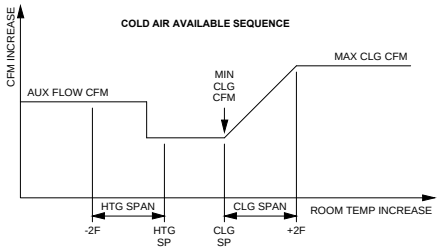
DRAWING TITLE: PARALLEL FPB W/STAGED REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14013A_SimplyVAV_PAR_FAN_3STAGE_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Variable Air Volume (VAV) Terminal Unit
Parallel Fan Powered with Time-Proportioned Reheat (PWM)
Pressure Independent
Model: BAC-8005/8205

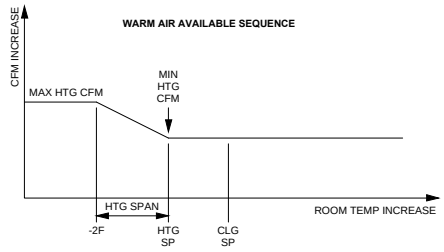


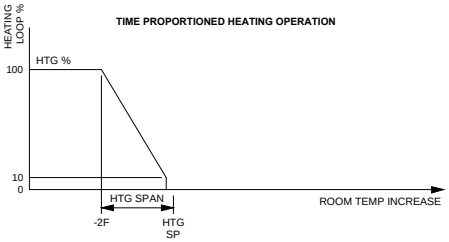




SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: As space temperature rises above the cooling setpoint, the controller increases airflow. At a space temperature of 2°F above the cooling setpoint, maximum cooling airflow is maintained. On a decrease in space temperature, the controller reduces airflow. From cooling setpoint to heating setpoint, minimum cooling airflow is maintained. If the temperature drops further and heating is required, the auxiliary flow rate is maintained.
3. Warm air available: As space temp drops below the heating setpoint, the controller increases airflow. At a temperature 2°F below the heating setpoint, maximum heating airflow is maintained. On an increase in space temperature, airflow decreases. As space temperature rises above the heating setpoint, minimum heating airflow is maintained.
4. The fan is started only on a call for heat. The fan stops if there is no call for heat. During occupied mode, the fan runs at maximum fan speed. During standby and unoccupied modes, the fan runs at minimum fan speed.
5. As the space temp drops below the heating setpoint, the heating output is controlled in a 10 second based, time-proportioned manner. If the heating loop is less than 10%, the heating output remains at zero percent.
6. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.





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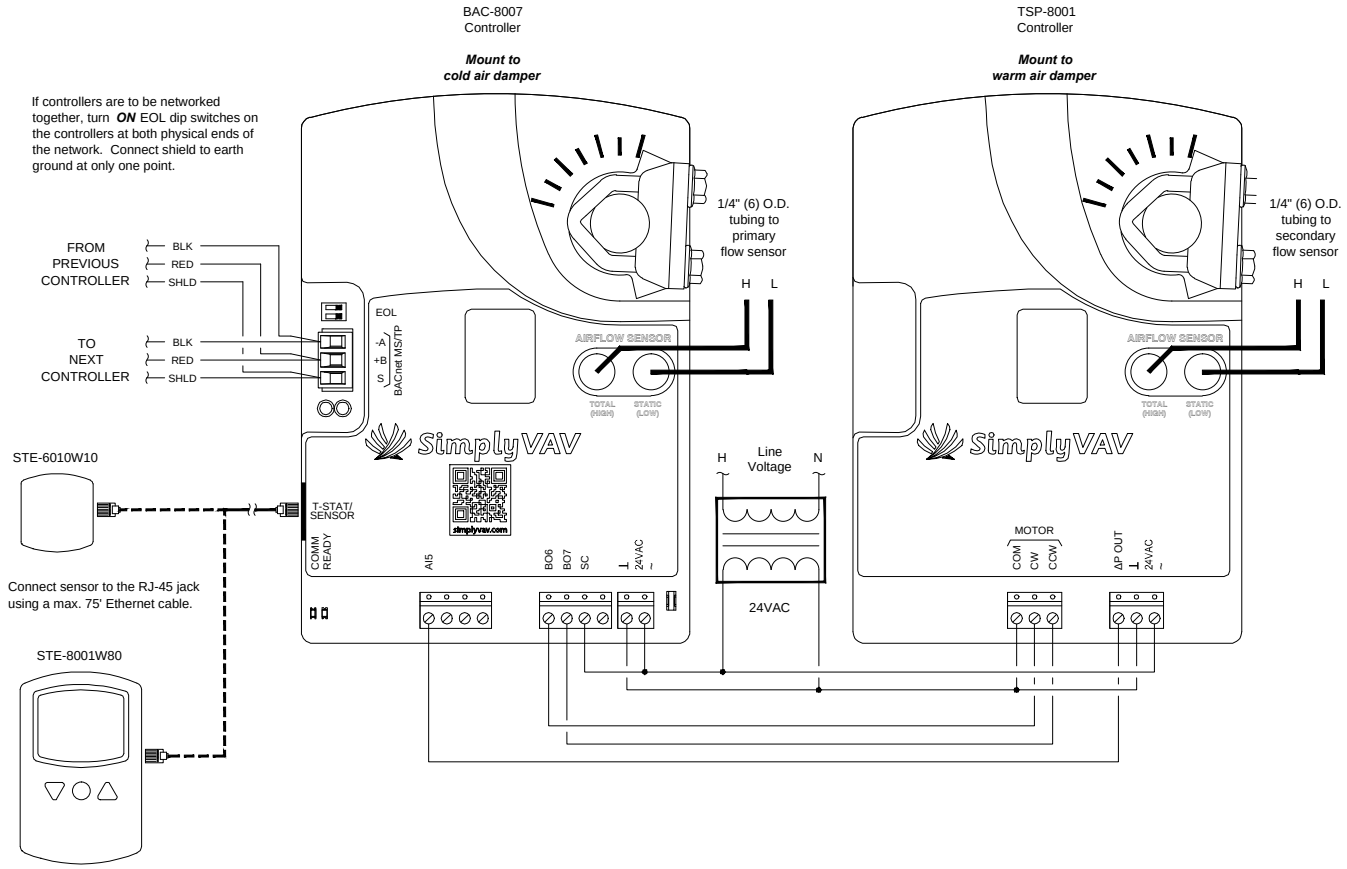
DRAWING TITLE: PARALLEL FPB W/PWM REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14014A_SimplyVAV_PAR_FAN_PWM_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Dual Duct Variable Air Volume (VAV) Terminal Unit
Pressure Independent
Model: BAC-8007



External connections::

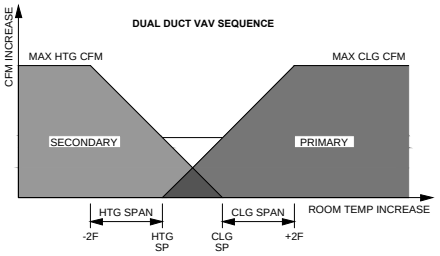
AI5 = SECONDARY FLOW
BO6 = SECONDARY CW
BO7 = SECONDARY CCW

NOTES:

1. Controller settings must be initially set using an STE-8XXX.
2. See SimplyVAV.com for accessories and additional details.

SEQUENCE OF OPERATION:

1. As the space temperature rises above the cooling setpoint, the primary airflow is modulated from the Cooling Minimum flow to the Cooling Maximum Flow.
2. As the space temperature falls below the heating setpoint, the secondary airflow is modulated from the Heating Minimum flow to the Heating Maximum Flow.
3. Between the heating and cooling setpoints, both the primary airflow and secondary airflow are modulated to maintain the Dual Mixing Minimum.



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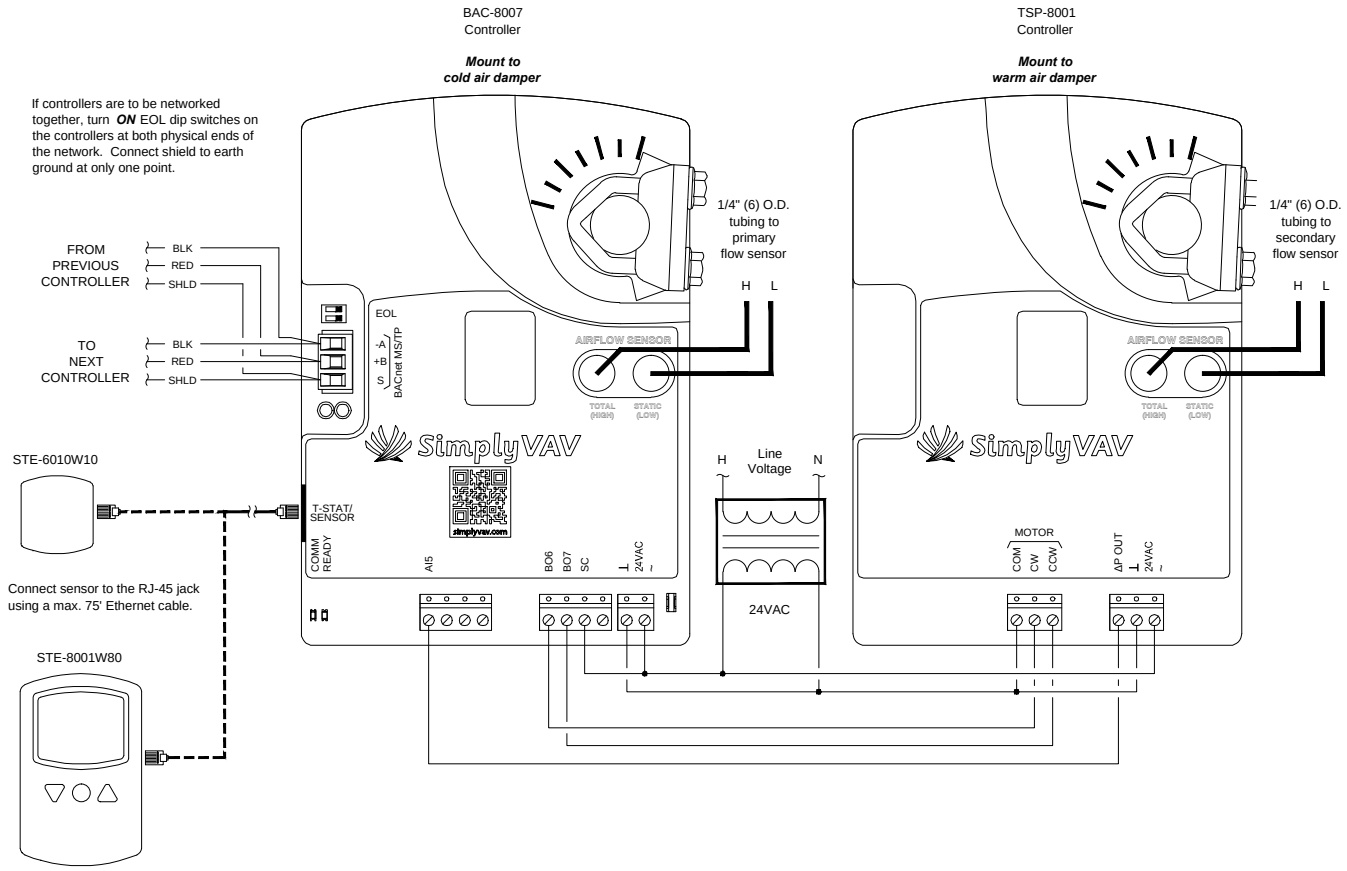
DRAWING TITLE: DUAL DUCT TERMINAL UNIT - CAV		
CREATION DATE:	3/7/2014	FILENAME: SS14015A_SimplyVAV_DD_VAV
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Dual Duct Constant Air Volume (CAV) Terminal Unit
Pressure Independent
Model: BAC-8005/8205



External connections::

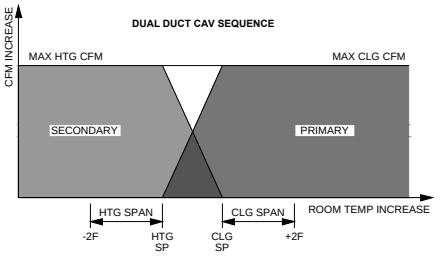
AI5 = SECONDARY FLOW
BO6 = SECONDARY CW
BO7 = SECONDARY CCW

NOTES:

1. Controller settings must be initially set using an STE-8XXX.
2. See SimplyVAV.com for accessories and additional details.

SEQUENCE OF OPERATION:

1. As the space temperature rises above the cooling setpoint, the primary airflow is modulated from the Cooling Minimum flow to the Cooling Maximum Flow.
2. As the space temperature falls below the heating setpoint, the secondary airflow is modulated from the Heating Minimum flow to the Heating Maximum Flow.
3. Between the heating and cooling setpoints, both the primary airflow and secondary airflow are modulated to maintain the Dual Mixing Minimum.



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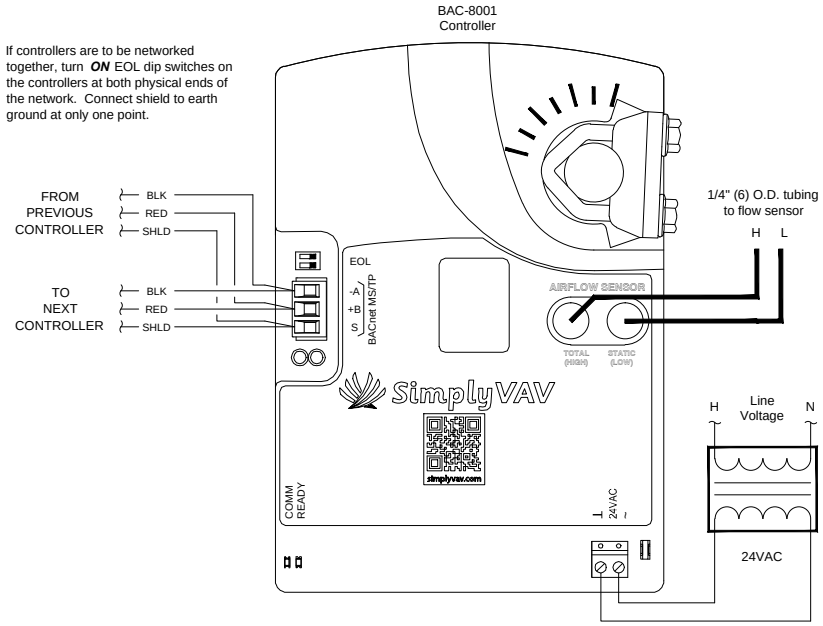
DRAWING TITLE: DUAL DUCT TERMINAL UNIT - CAV		
CREATION DATE:	3/7/2014	FILENAME: SS14016A_SimplyVAV_DD_CAV
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Constant Air Volume (CAV) Terminal Unit
Cooling Only
Pressure Independent
Model: BAC-8001

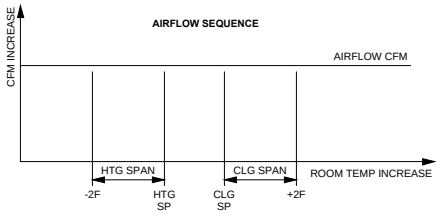


NOTES:

1. Controller settings must be initially set using an STE-8XXX.
2. See SimplyVAV.com for accessories and additional details.

SEQUENCE OF OPERATION:

1. Airflow setpoint is maintained.



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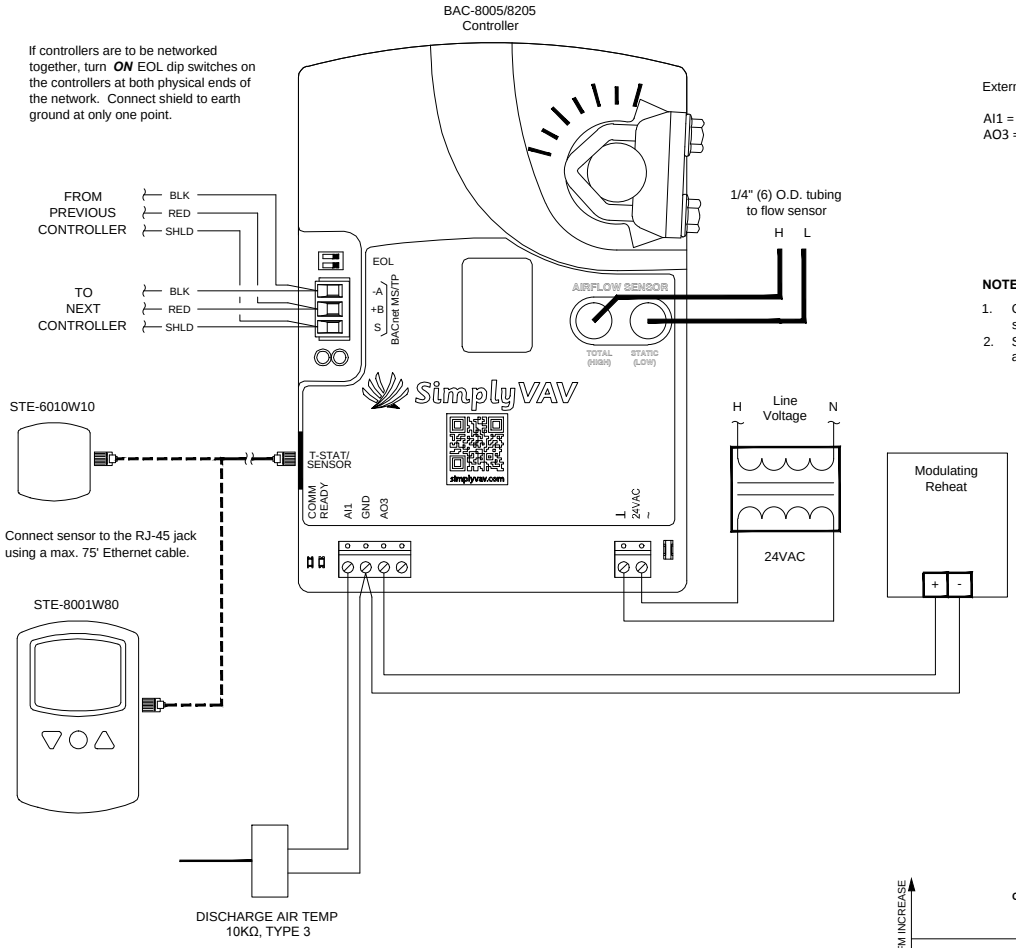
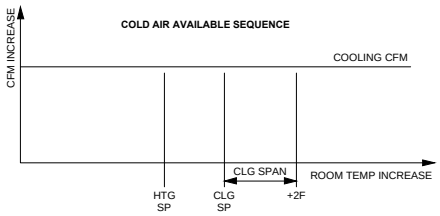
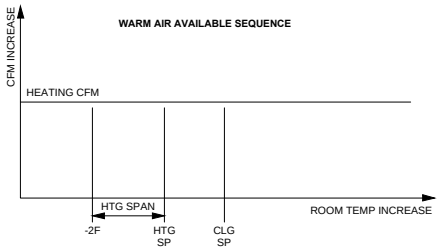
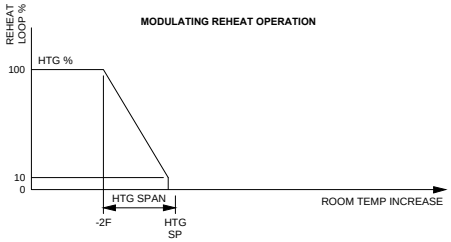
DRAWING TITLE: SINGLE DUCT TERMINAL UNIT - CAV		
CREATION DATE:	3/7/2014	FILENAME: SS14017A_SimplyVAV_SD_CAV
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Constant Air Volume (CAV) Terminal Unit
Cooling with Modulating Reheat
Pressure Independent
Model: BAC-8005/8205









SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: Constant cooling airflow is maintained.
3. Warm air available: Constant heating airflow is maintained.
4. As the space temp drops below the heating setpoint, the heating output modulates open. As the space temp rises toward the heating setpoint, the heating output modulates closed. If the heating loop is less than 10%, the heating output remains at zero percent.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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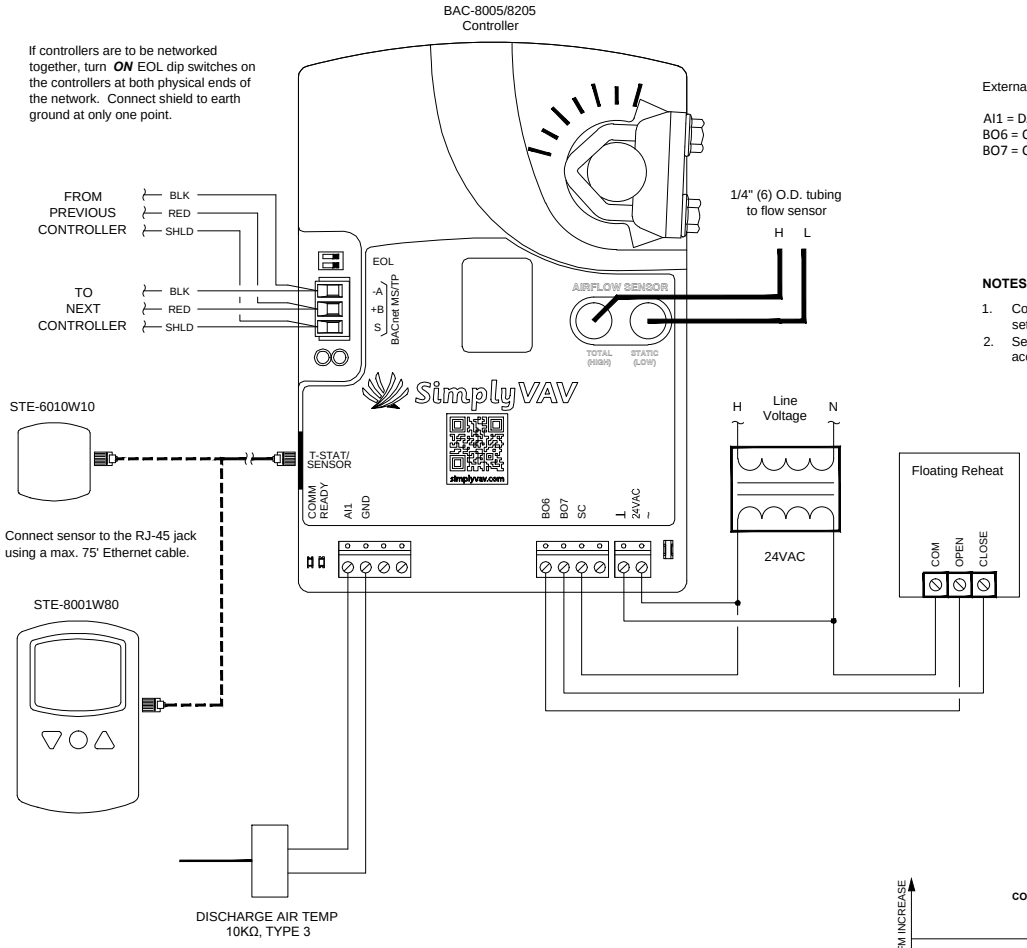
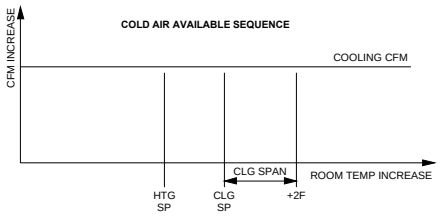
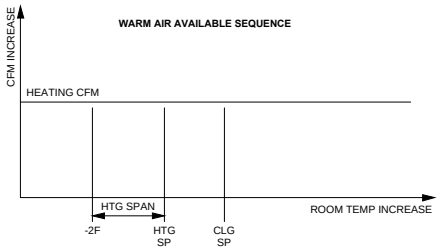
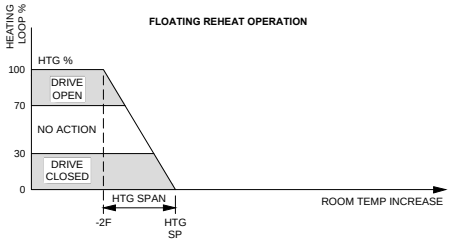
DRAWING TITLE: SINGLE DUCT TERMINAL UNIT - CAV W/MODULATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14018A_SimplyVAV_SD_CAV_MOD_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Constant Air Volume (CAV) Terminal Unit
Cooling with Floating Reheat
Pressure Independent
Model: BAC-8005/8205









SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: Constant cooling airflow is maintained.
3. Warm air available: Constant heating airflow is maintained.
4. As the space temp drops below the heating setpoint (heating loop is greater than 70%), the valve is driven open. As the space temp rises back toward the heating setpoint (heating loop is less than 30%), the valve is driven closed. If the loop is in between, there is no valve action.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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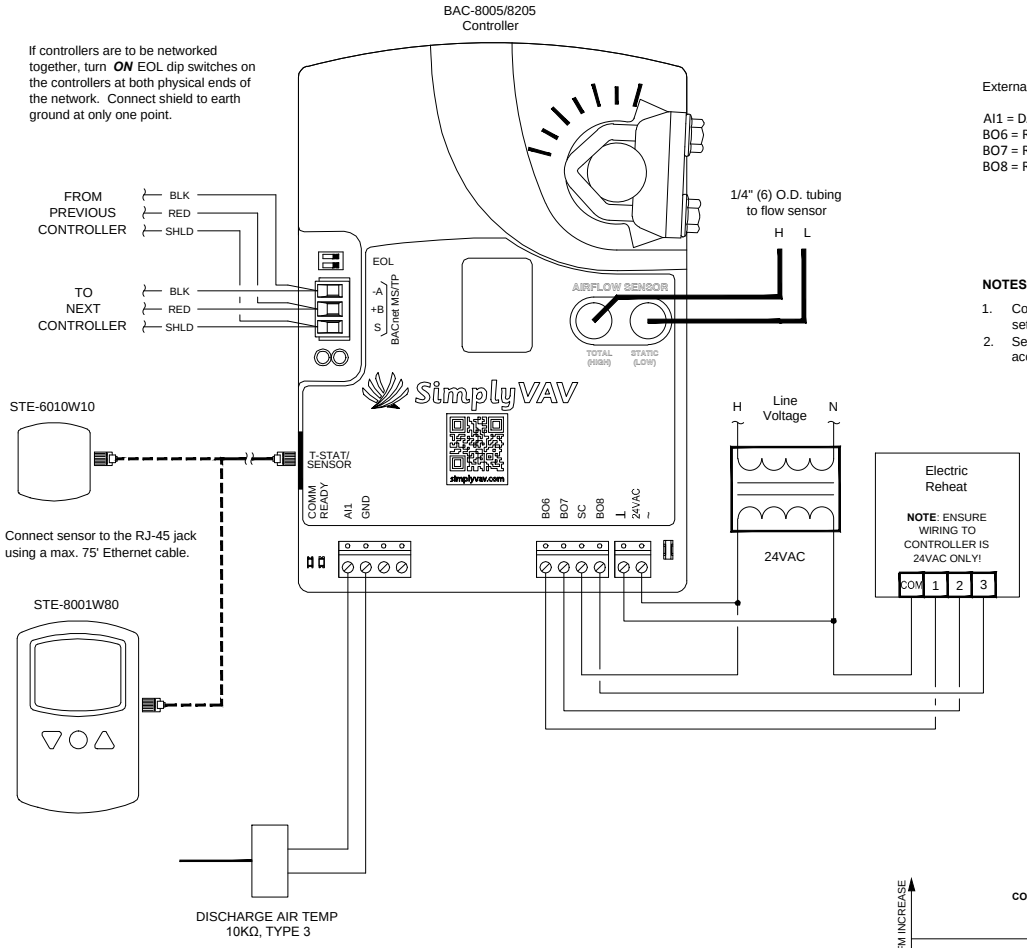
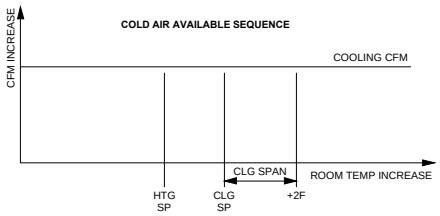
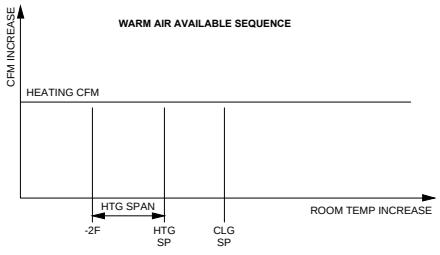
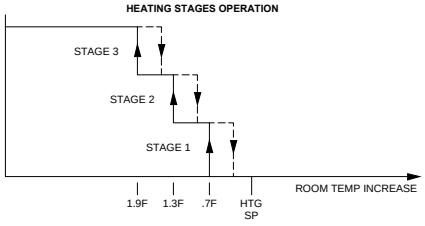
DRAWING TITLE: SINGLE DUCT TERMINAL UNIT - CAV W/FLOATING REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14019A_SimplyVAV_SD_CAV_FLOAT_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Constant Air Volume (CAV) Terminal Unit
Cooling with Staged Electric Reheat
Pressure Independent
Model: BAC-8005/8205









SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: Constant cooling airflow is maintained.
3. Warm air available: Constant heating airflow is maintained.
4. As the space temp drops below the heating setpoint, stages 1, 2 and 3 of electric reheat are energized respectively. As the space temp rises back toward the heating setpoint, heating stages 3, 2 and 1 turn off respectively.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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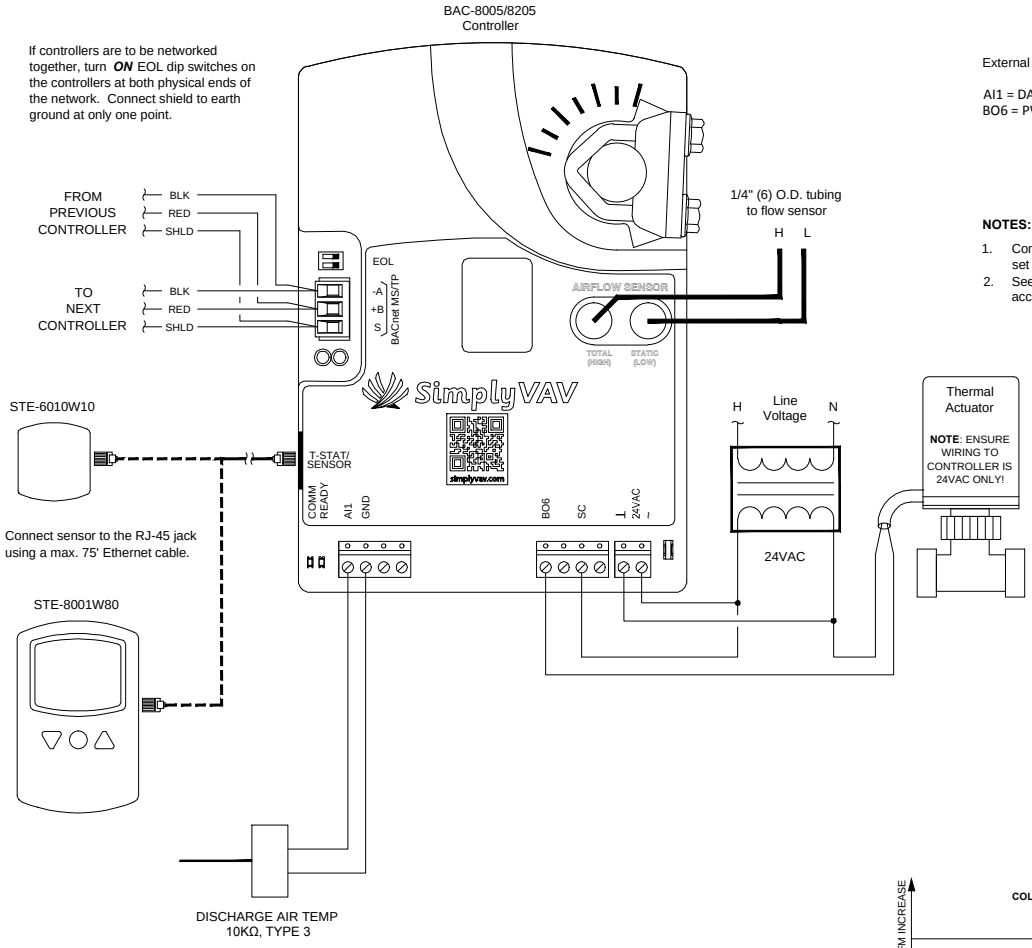
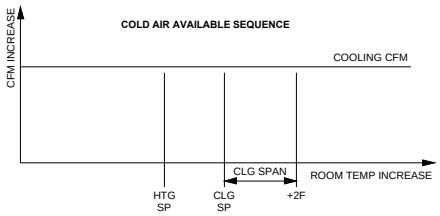
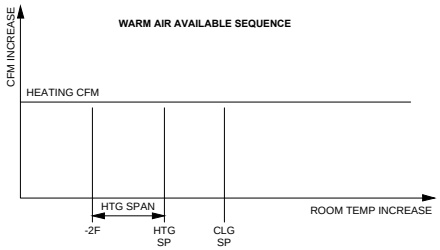
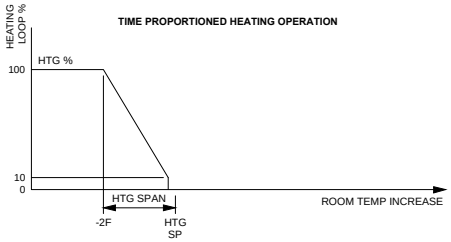
DRAWING TITLE: SINGLE DUCT TERMINAL UNIT - CAV W/STAGED REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14020A_SimplyVAV_SD_CAV_3STAGE_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE

Single Duct Constant Air Volume (CAV) Terminal Unit
Cooling with Time-Proportioned Reheat (PWM)
Pressure Independent
Model: BAC-8005/8205









SEQUENCE OF OPERATION:

1. Changeover: If the discharge air temperature (DAT) drops below 72°F, cool air is said to be available. As the DAT rises above 76°F, warm air is said to be available. Any time warm air is available, auxiliary heat is locked out.
2. Cool air available: Constant cooling airflow is maintained.
3. Warm air available: Constant heating airflow is maintained.
4. As the space temp drops below the heating setpoint, the heating output is controlled in a 10 second based, time-proportioned manner. If the heating loop is less than 10%, the heating output remains at zero percent.
5. If DAT limiting is enabled and a DAT sensor is detected, the discharge air reheat setpoint is determined based on the heating loop. The discharge air setpoint is limited to a maximum of 15°F above space temperature.

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DRAWING TITLE: SINGLE DUCT TERMINAL UNIT - CAV W/PWM REHEAT		
CREATION DATE:	3/7/2014	FILENAME: SS14021A_SimplyVAV_SD_CAV_PWM_RHT
REVISION DATE:	3/7/2014	REVISION: INITIAL RELEASE