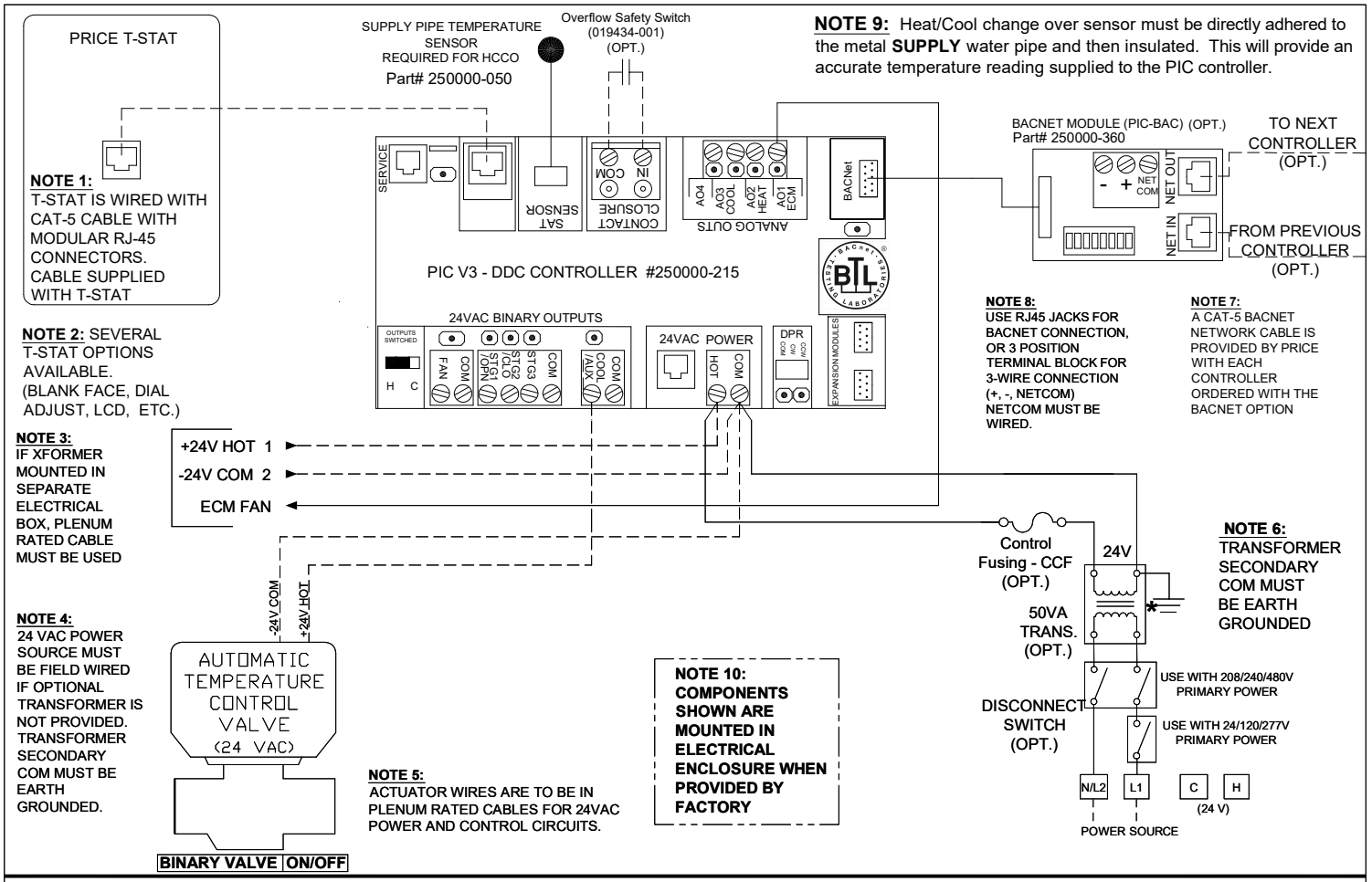
FAN COIL DIGITAL CONTROLS

Control Sequence Number 8950

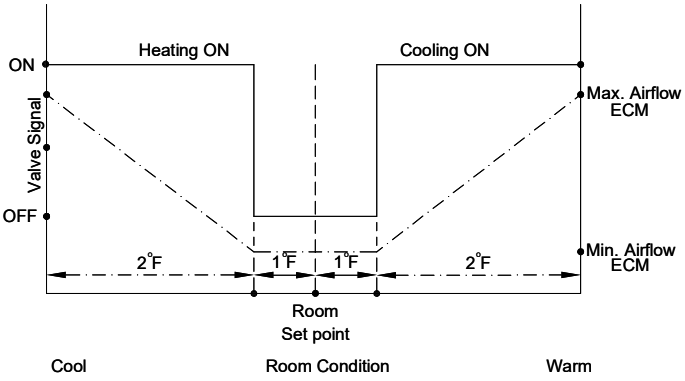


LEGEND

FACTORY ELECTRICAL WIRING

FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Variable Speed Fan, On/Off Heating or Cooling with Heat/Cool Changeover

If no HCCO sensor is present, the controller assumes chilled water supply at all times

Chilled Water Supply: On an increase in space temperature the controller opens the valve and modulates the ECM motor to increase the flow of cool air. On an increase of space temperature greater than the cooling proportional band, the ECM speed is maintained at its pre-selected maximum setting. On a decrease in space temperature the controller closes the valve and modulates the ECM motor to reduce the flow of cool air. If the space temperature decreases to less than the cooling proportional band, the ECM speed is maintained at the pre-selected minimum setting.

Hot Water Supply: On a decrease in space temperature the controller opens the valve and modulates the ECM motor to increase the flow of warm air. On a decrease of space temperature greater than the heating proportional band, the ECM speed is maintained at its pre-selected maximum setting. On an increase in space temperature the controller closes the valve and modulates the ECM motor to reduce the flow of warm air. If the space temperature increases above the heating proportional band, the ECM speed is maintained at the pre-selected minimum setting.

Dead Band: With no demand in the space, the water valve actuator remains closed. Fan Flow remains on minimum speed.

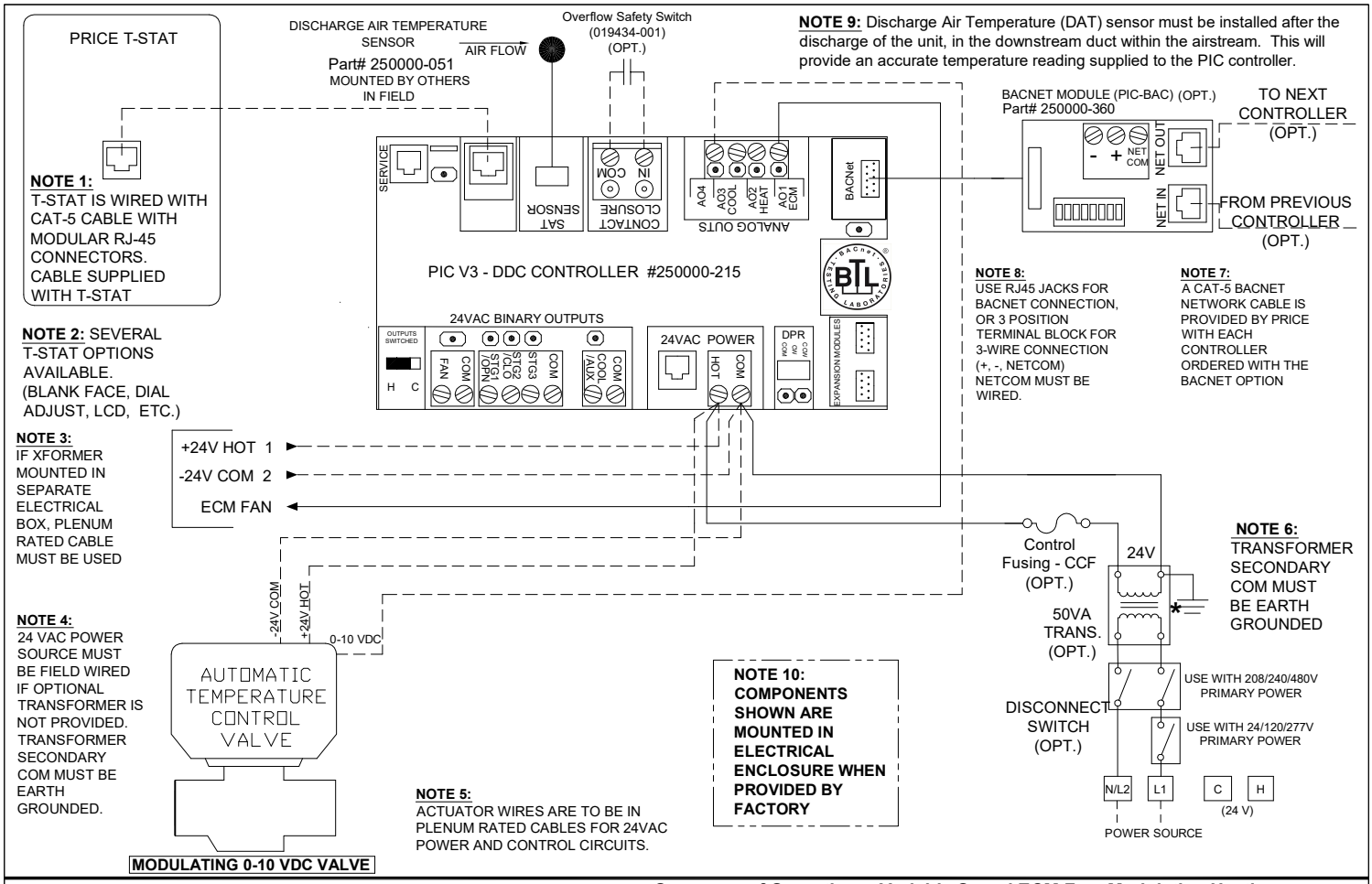
*If valve has been closed for 10 hours (adjustable) it will be opened for a maximum of 5 minutes to determine if water supply temperature has changed.

PROJECT:			**FAN COIL CONTROLS PIC-FC** VARIABLE SPEED ECM 2-PIPE ON/OFF HEATING OR COOLING ONLY WITH CHANGEOVER
ENGINEER:			
CUSTOMER:		252451	
SUBMITTAL DATE:	**SPEC. SYMBOL:**	2020/06/15	

REV H

FAN COIL DIGITAL CONTROLS

Control Sequence Number 8951

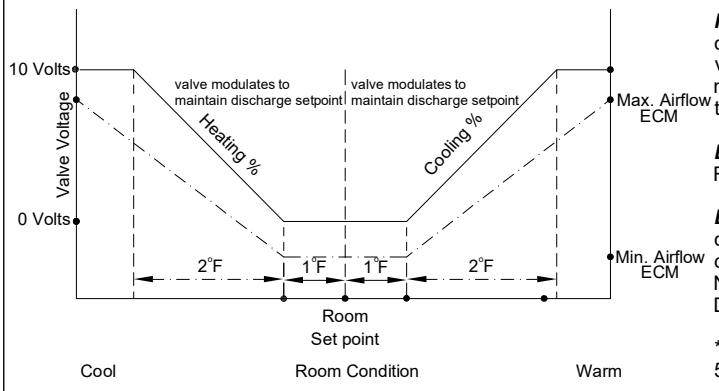


LEGEND

FACTORY ELECTRICAL WIRING

FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Variable Speed ECM Fan, Modulation Heating or Cooling with Discharge Air Temperature Control

While the space is occupied, the unit fan operates continuously supplying a constant volume of supply air.

Chilled Water Supply: On an increase in space temperature above the set point, the controller modulates to maintain 55°F discharge temperature. This 55°F value is adjustable using the Linker USB setup tool or LCD t-stat. The controller will modulate the ECM fan from minimum airflow set point to maximum airflow set point based on space temperature.

Hot Water Supply: On a decrease in space temperature below the set point, the controller modulates the valve to maintain a discharge temperature of 90°F. This 90°F value is adjustable using the Linker USB setup tool or LCD t-stat. The controller will modulate the ECM motor from min airflow point to max airflow point based on space temperature.

Dead Band: With no demand in the space, the water valve actuator remains closed. Fan Flow remains on low speed.

Discharge Air Temperature (DAT) Sensor and Control: The sensor provides the controller with the discharge air temperature reading. This temperature is used to control the modulating valves while trying to achieve a set discharge temperature. Note: Discharge Air Temperature Control is only possible with modulating valves. The DAT is also used to determine the water temperature (Hot/Cold).

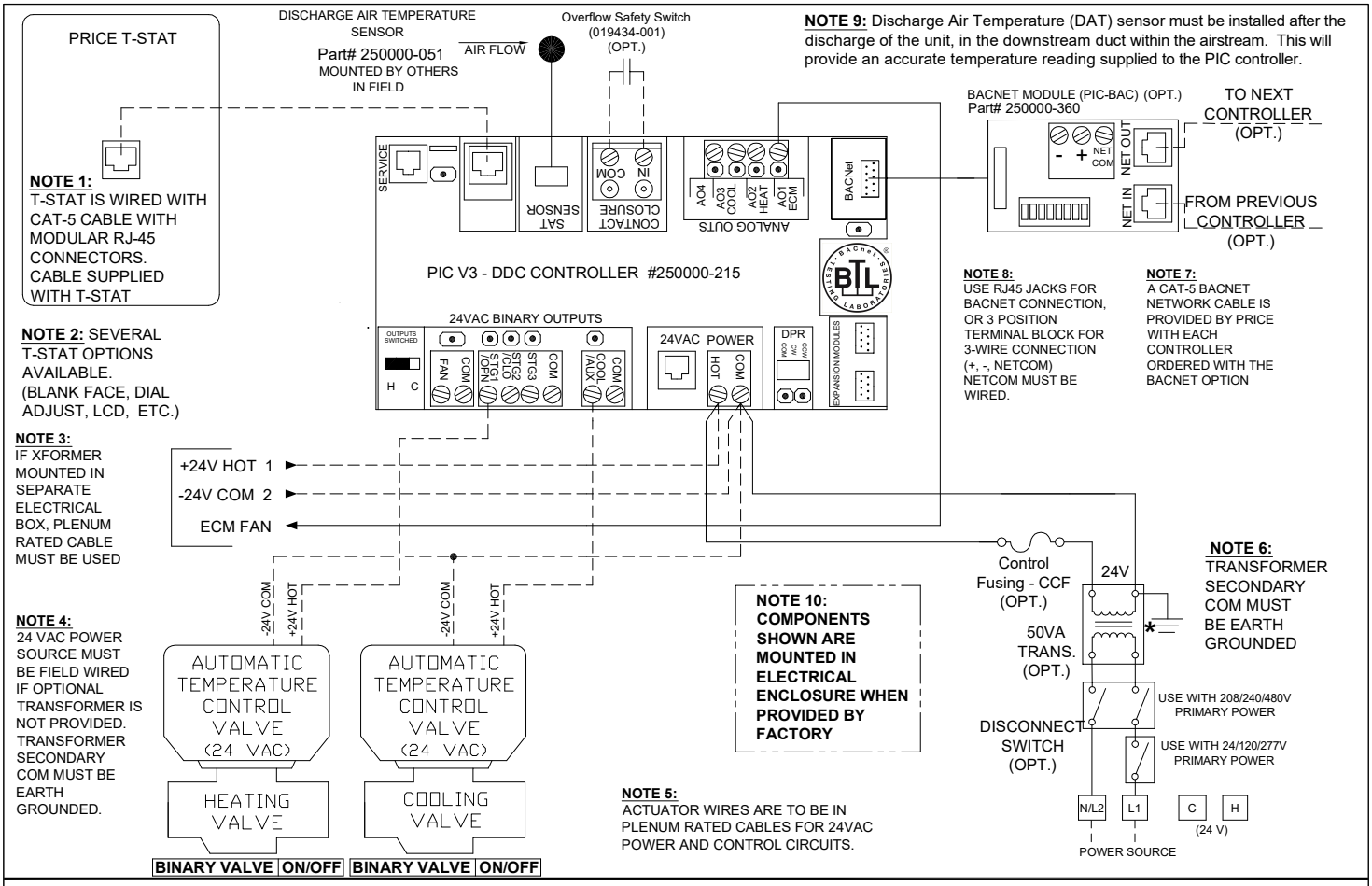
*If valve has been closed for 10 hours (adjustable) it will be opened for a maximum of 5 minutes to determine if water supply temperature has changed.

PROJECT:		
ENGINEER:		**FAN COIL CONTROLS PIC-FC** VARIABLE SPEED ECM 2-PIPE 0-10VDC HEATING OR COOLING W/ DAT CONTROL & CHANGEOVER
CUSTOMER:	252452	
SUBMITTAL DATE:	**SPEC. SYMBOL:** 2020/06/15	

REV I

FAN COIL DIGITAL CONTROLS

Control Sequence Number 8952

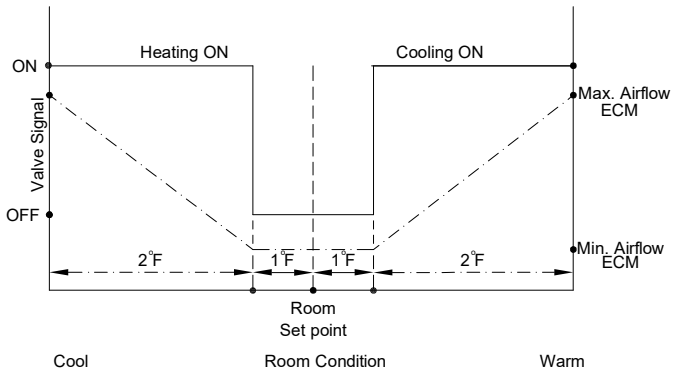


LEGEND

FACTORY ELECTRICAL WIRING

FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Variable Speed ECM Fan, On/Off Heating & On/Off Cooling with Discharge Air Temperature Monitoring

Cooling: On an increase in space temperature above the set point, the controller opens the cold water valve. The controller will modulate the ECM fan from min airflow point to max airflow set point.

Dead Band: With no demand in the space, the water valve actuator remains closed. Fan Flow remains on low speed.

Heating: On a decrease in space temperature below the set point, the controller opens the hot water valve. The controller will modulate the ECM motor from min airflow point to max airflow set point.

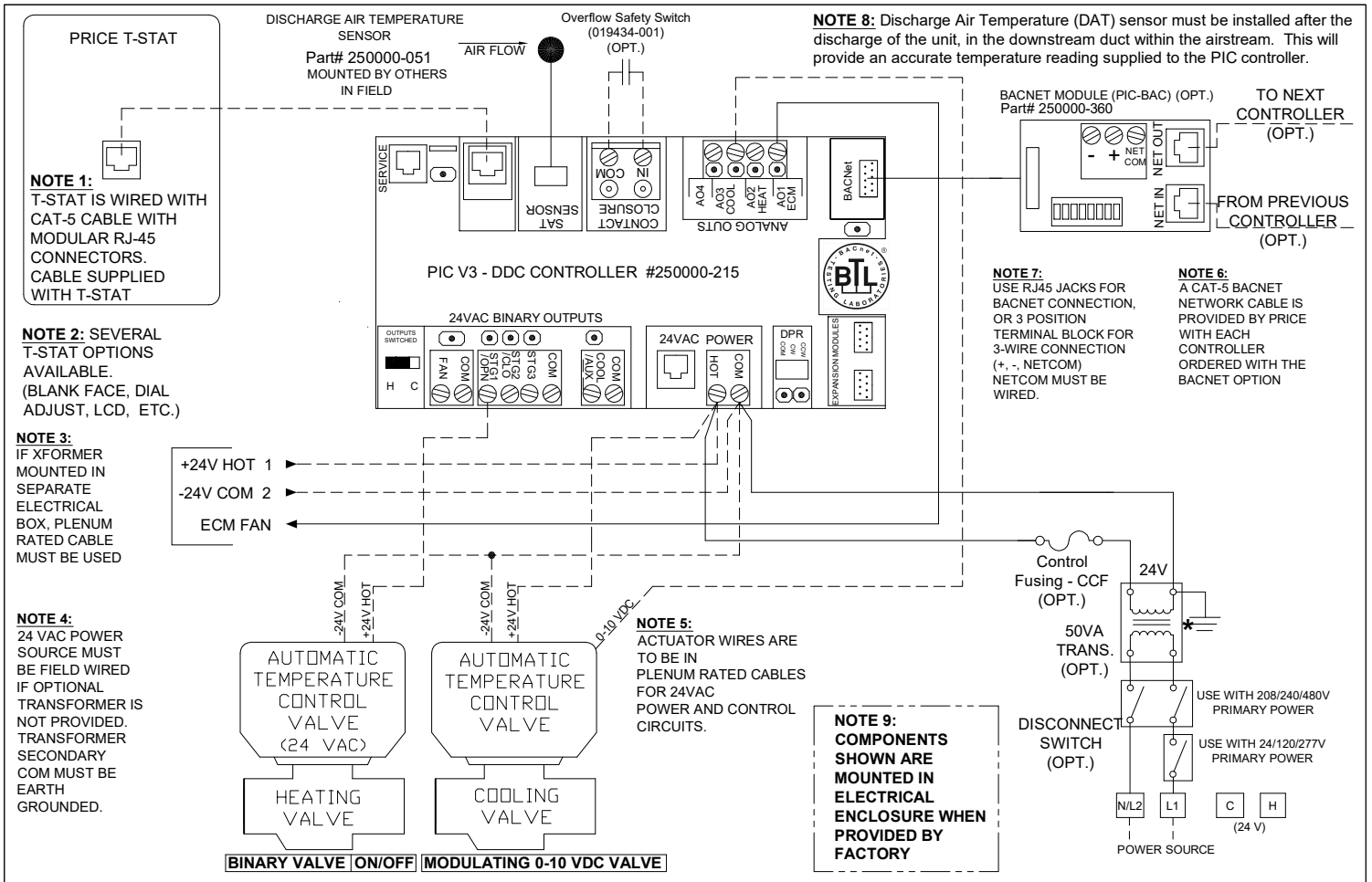
Discharge Air Temperature (DAT) Sensor: The sensor provides a discharge temperature reading to the thermostat. This temperature can only be read through the interface program or through the LCD thermostat. For monitoring only.

PROJECT:			
ENGINEER:			**FAN COIL CONTROLS PIC-FC** VARIABLE SPEED ECM 4-PIPE ON/OFF HEATING & COOLING WITH DAT FOR MONITORING
CUSTOMER:		252453	
SUBMITTAL DATE:	**SPEC. SYMBOL:**	2020/06/15	

REV H

FAN COIL DIGITAL CONTROLS

Control Sequence Number 8953

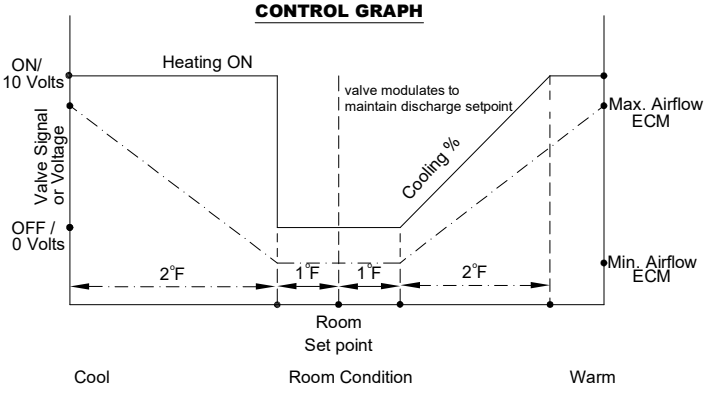


LEGEND

FACTORY ELECTRICAL WIRING

FIELD ELECTRICAL WIRING

CONTROL GRAPH



Note: Price only reccomends modulating chilled water valves when the sequence maintains a constant discharge temperature to ensure part load space humidity is controlled.

Sequence of Operation -- Variable Speed ECM Fan, On/Off Heating & Modulating Cooling with Cooling Discharge Air Temperature Control

Cooling: On an increase in space temperature above the set point, the controller modulates the cold water valve to maintain 55°F discharge temperature. This 55°F value is adjustable using the Linker USB setup tool or LCD t-stat. The controller will modulate the ECM fan from minimum airflow set point to maximum airflow set point based on space temperature.

Dead Band: With no demand in the space, the water valve actuator remains closed. Fan Flow remains on low speed.

Heating: On a decrease in space temperature below the set point, the controller opens the binary hot water valve. The controller will modulate the ECM motor from minimum airflow point to maximum airflow set point.

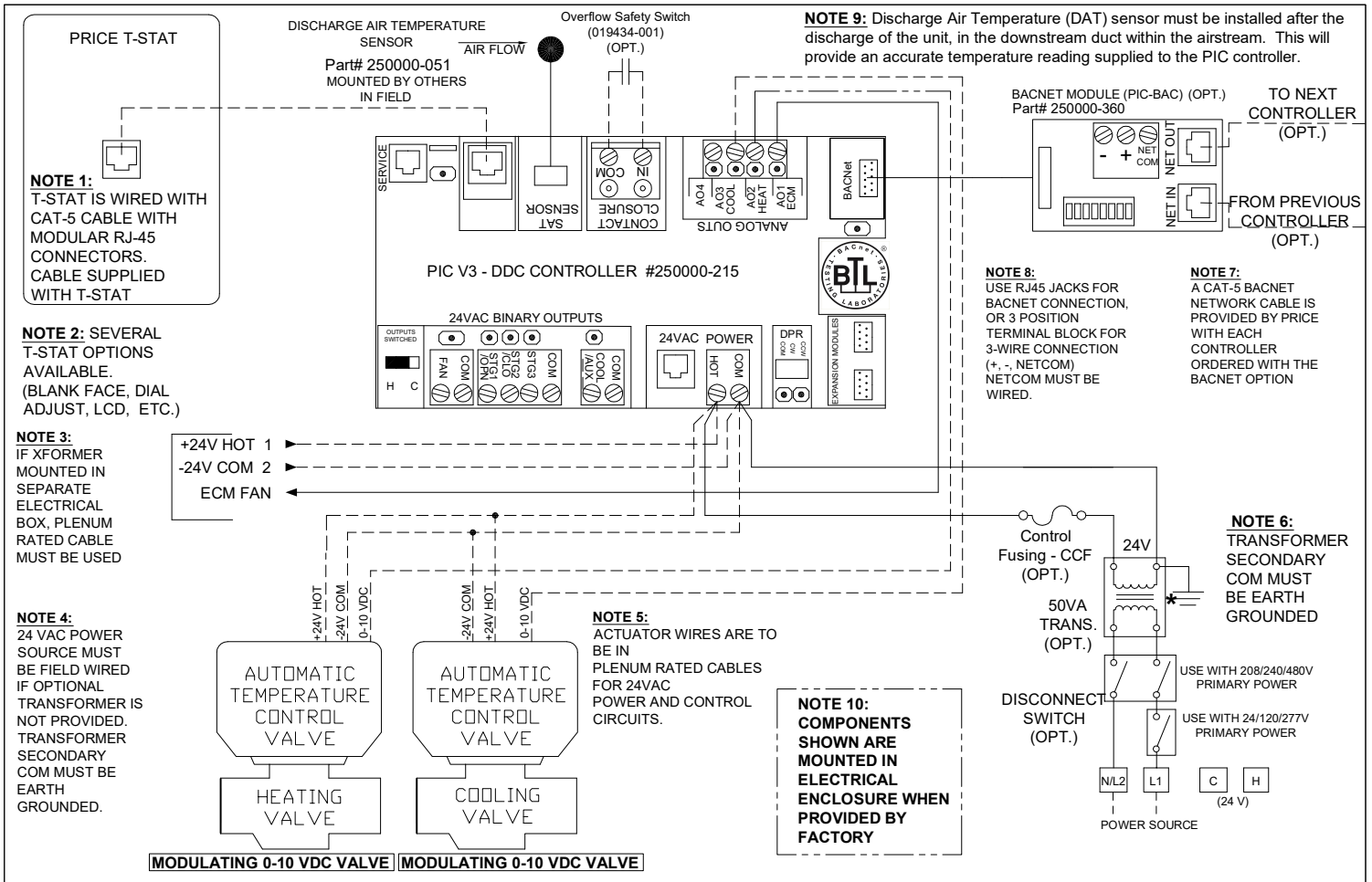
Discharge Air Temperature (DAT) Sensor and Control: The sensor provides the controller with the discharge air temperature reading. This temperature is used to control the modulating cooling valve to achieve a set discharge temperature. Note: Discharge Air Temperature Control is only possible with modulating valves.

PROJECT:		
ENGINEER:		**FAN COIL CONTROLS PIC-FC** VARIABLE SPEED ECM 4-PIPE ON/OFF HEATING & 0-10VDC COOLING WITH COOLING DAT CONTROL
CUSTOMER:	252454	
SUBMITTAL DATE:	**SPEC. SYMBOL:** 2020/06/16	

REV I

FAN COIL DIGITAL CONTROLS

Control Sequence Number 8954

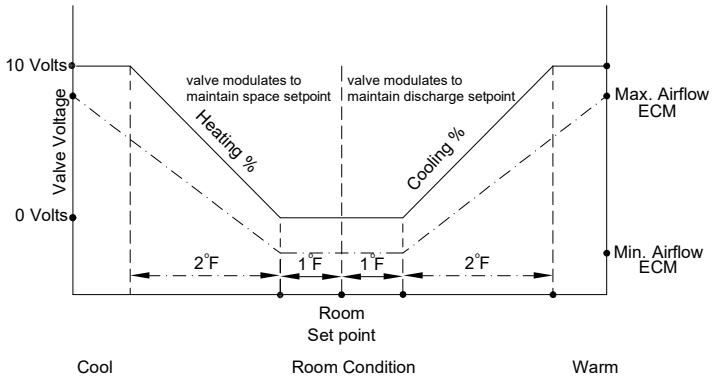


LEGEND

FACTORY ELECTRICAL WIRING

FIELD ELECTRICAL WIRING

CONTROL GRAPH



Note: Price only recommends modulating chilled water valves when the sequence maintains a constant discharge temperature to ensure part load space humidity is controlled.

Sequence of Operation -- Variable Speed ECM Fan, Modulating Heating & Modulating Cooling with Discharge Air Temperature Control

Cooling: On an increase in space temperature above the set point, the controller modulates the cold water valve to maintain 55°F discharge temperature. This 55°F value is adjustable using the Linker USB setup tool or LCD t-stat. The controller will modulate the ECM fan from minimum airflow set point to maximum airflow set point based on space temperature.

Dead Band: With no demand in the space, the water valve actuator remains closed. Fan Flow remains on low speed.

Heating: On a decrease in space temperature below the set point the controller modulates the hot water valve to maintain a discharge temperature of 90°F. This 90°F value is adjustable using the Linker USB setup tool or LCD t-stat. The controller will modulate the ECM motor from min airflow point to max airflow point based on space temperature.

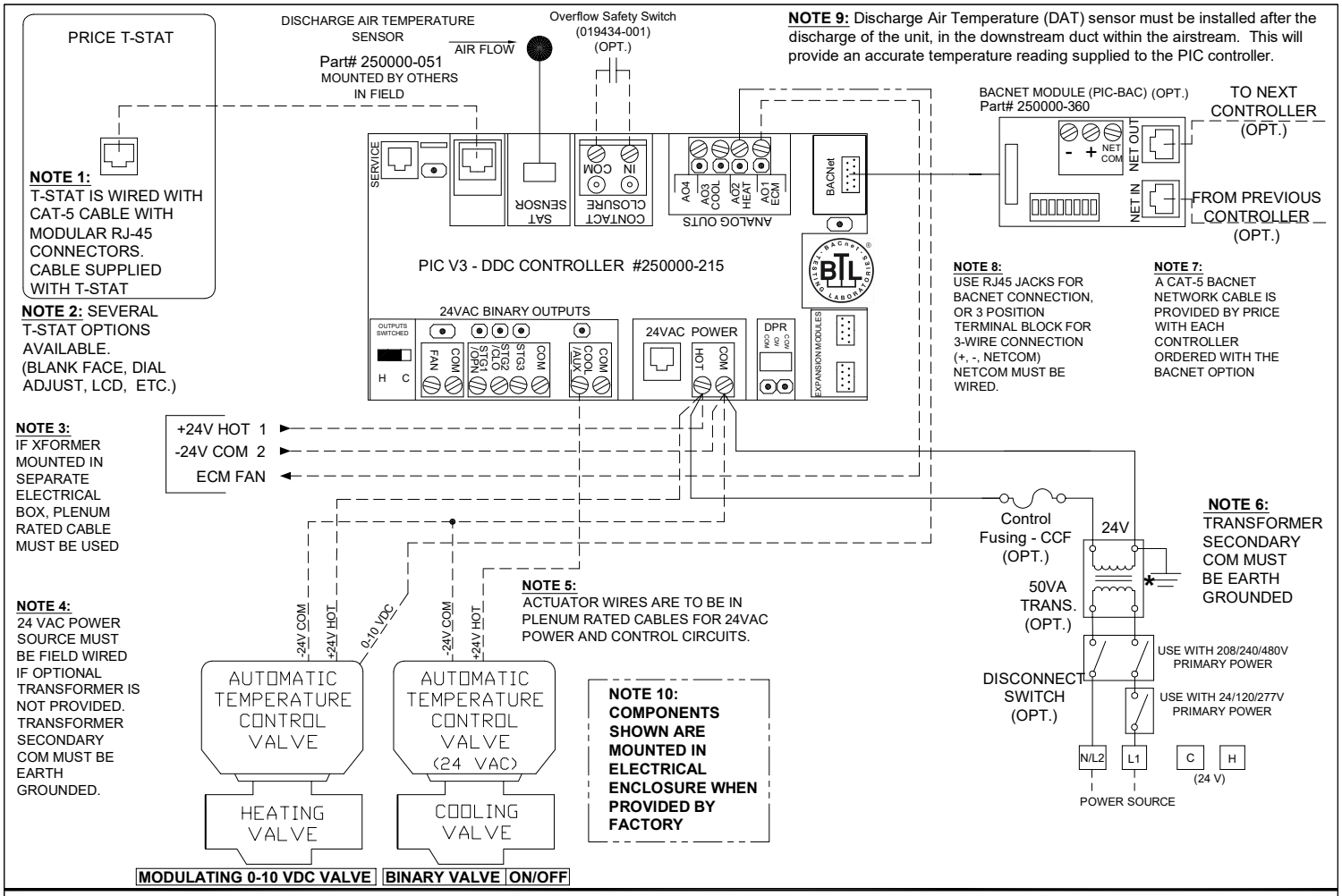
Discharge Air Temperature (DAT) Sensor and Control: The sensor provides the controller with the discharge air temperature reading. This temperature is used to control the modulating valves while trying to achieve a set discharge temperature. Note: Discharge Air Temperature Control is only possible with modulating valves.

PROJECT:		
ENGINEER:		**FAN COIL CONTROLS PIC-FC** VARIABLE SPEED ECM 4-PIPE 0-10VDC HEATING & 0-10VDC COOLING WITH DAT CONTROL
CUSTOMER:	252455	
SUBMITTAL DATE:	**SPEC. SYMBOL:** 2020/06/16	

REV I

FAN COIL DIGITAL CONTROLS

Control Sequence Number 8955

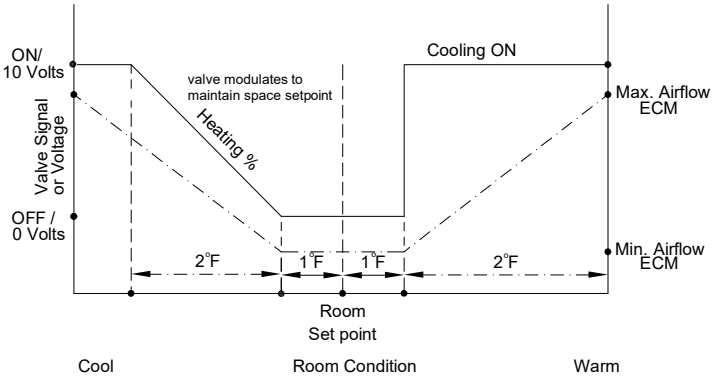


LEGEND

FACTORY ELECTRICAL WIRING

FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Variable Speed ECM Fan, Modulating Heating & On/Off Cooling with Heating Discharge Air Temperature Control

Cooing: On an increase in space temperature above the set point, the controller opens the cold water valve. The controller will modulate the ECM fan from min airflow point to max airflow set point.

Dead Band: With no demand in the space, the water valve actuator remains closed. Fan Flow remains on low speed.

Heating: On a decrease in space temperature below the set point the controller modulates the hot water valve to maintain a discharge temperature of 90°F. This 90°F value is adjustable using the Linker USB setup tool or LCD t-stat. The controller will modulate the ECM motor from min airflow point to max airflow point based on space temperature.

Discharge Air Temperature (DAT) Sensor and Control: The sensor provides the controller with the discharge air temperature reading. This temperature is used to control the modulating heating valve to achieve a set discharge temperature. Note: Discharge Air Temperature Control is only possible with modulating valves.

PROJECT:		
ENGINEER:		**FAN COIL CONTROLS PIC-FC** VARIABLE SPEED ECM 4-PIPE 0-10VDC HEATING & ON/OFF COOLING WITH DAT HEATING CONTROL
CUSTOMER:	252456	
SUBMITTAL DATE:	**SPEC. SYMBOL:**	2020/06/17

REV I