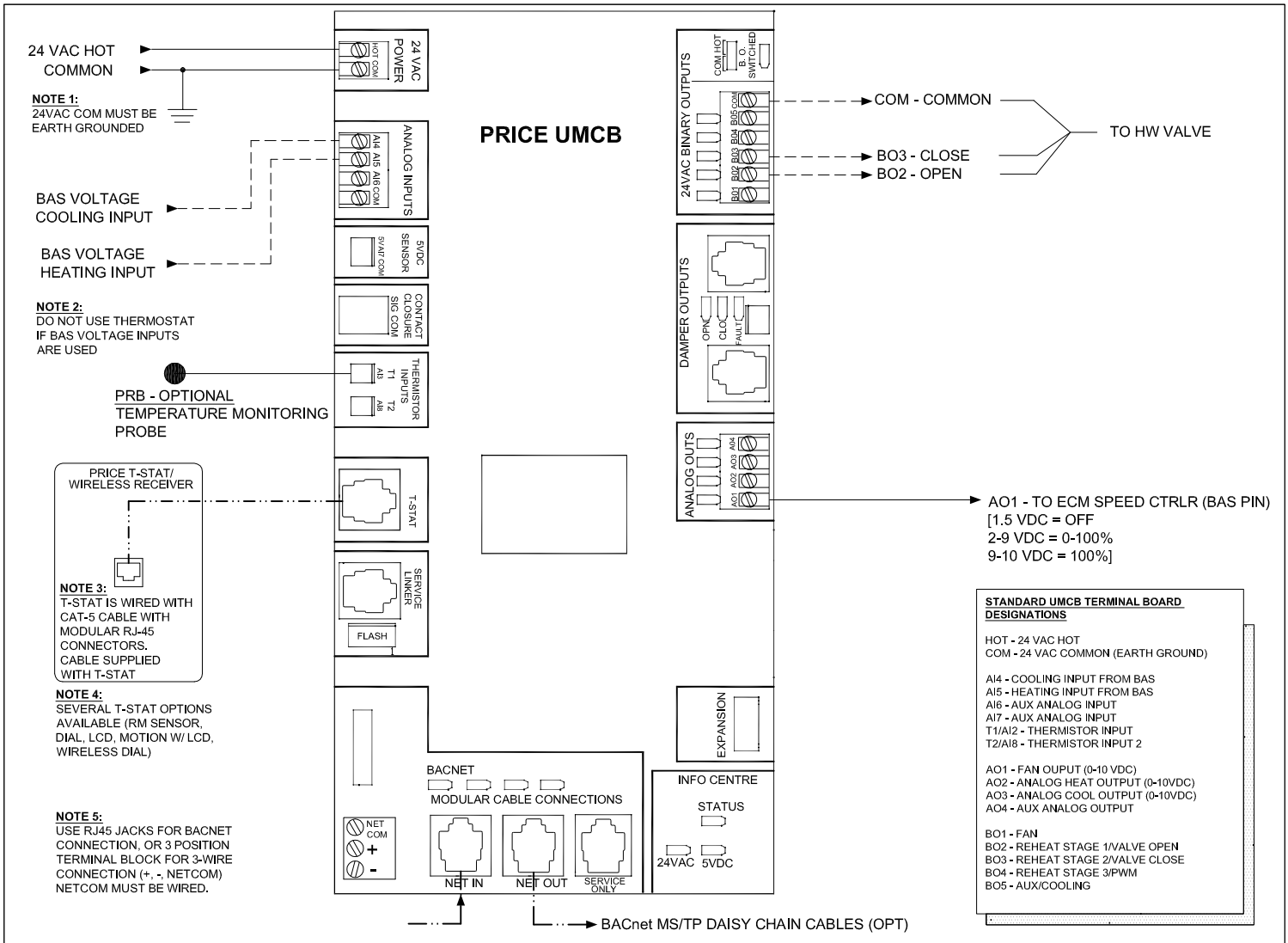
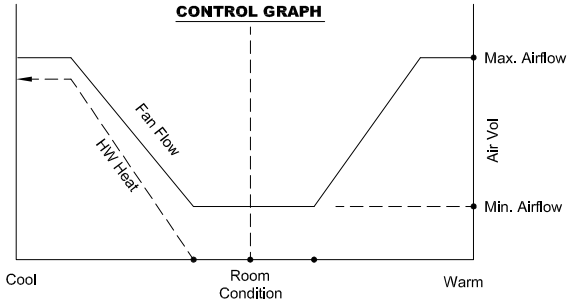
UNDER FLOOR DIGITAL CONTROLS

Control Sequence Number 9800



LEGEND

- PRICE NETC35 (RJ-45) - PLENUM CABLE - FIELD WIRED
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING



Sequence of Operation – Cooling with Modulating Fan; Tristate Heat with Modulating Fan.

Cooling: On an increase in space temperature the controller modulates the fan speed to increase the flow of cool air. On an increase in space temperature greater than the cooling proportional band the fan speed is maintained at its pre-selected maximum setting.

Heating: On a decrease in space temperature the controller modulates the heating valve to increase the heat proportionally to the room demand. The fan speed is modulated to increase the flow of warm air. On an increase in space temperature greater than the heating proportional band the fan speed is maintained at its pre-selected maximum setting.

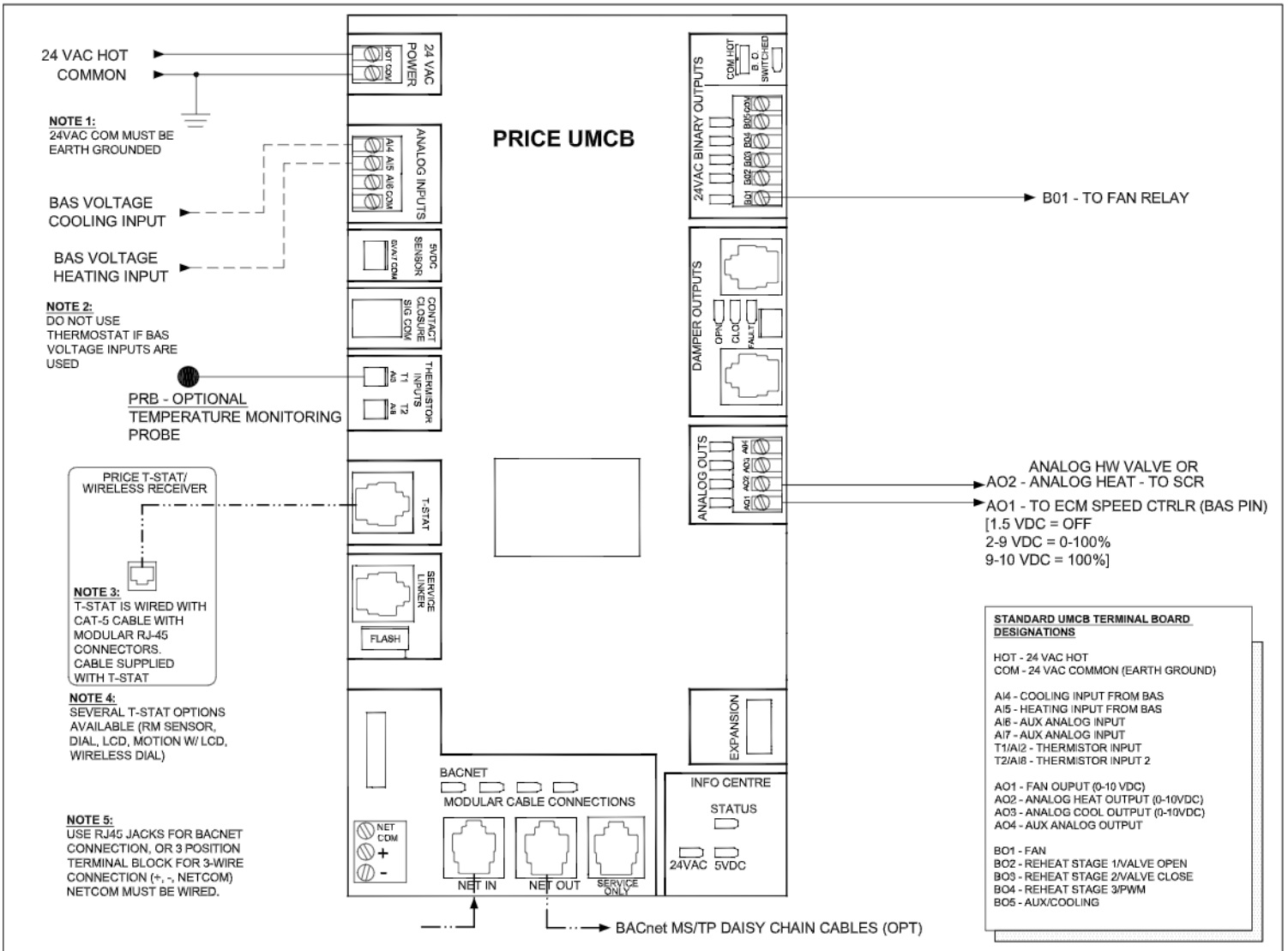
Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

PROJECT:		
ENGINEER:	BC MB	**UNDERFLOOR UMCB CONTROLS** MODULATING FAN CLG & HTG TRI-STATE REHEAT ECM MOTOR
CUSTOMER:	249560	
SUBMITTAL DATE:	**SPEC. SYMBOL:** 2017/08/18	

REV F

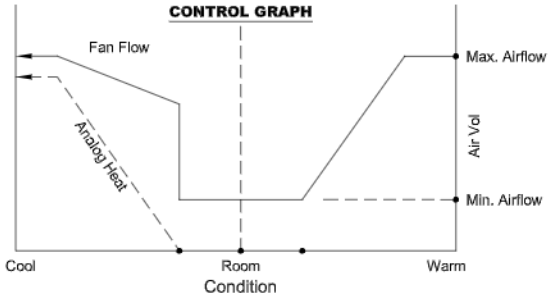
UNDER FLOOR DIGITAL CONTROLS

Control Sequence Number 9801



LEGEND

- PRICE NETC35 (RJ-45) - PLENUM CABLE - FIELD WIRED
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING



Sequence of Operation -- Cooling with Modulating Fan; Analog Heat with Modulating Fan.

Cooling: On an increase in space temperature the controller modulates the fan speed to increase the flow of cool air. On an increase in space temperature greater than the cooling proportional band the fan speed is maintained at its pre-selected maximum setting.

Heating: On a decrease in space temperature the controller modulates the fan speed to the minimum heating flow. The analog heat output is modulated to increase the heat proportionally to the room demand while the fan speed is modulated to increase the flow of warm air. On an increase in space temperature greater than the heating proportional band the fan speed and analog heat output are maintained at their pre-selected maximum settings.
Note: BO1 Fan output will energize prior to the heating outputs, allowing the fan to engage before the heat is enabled.

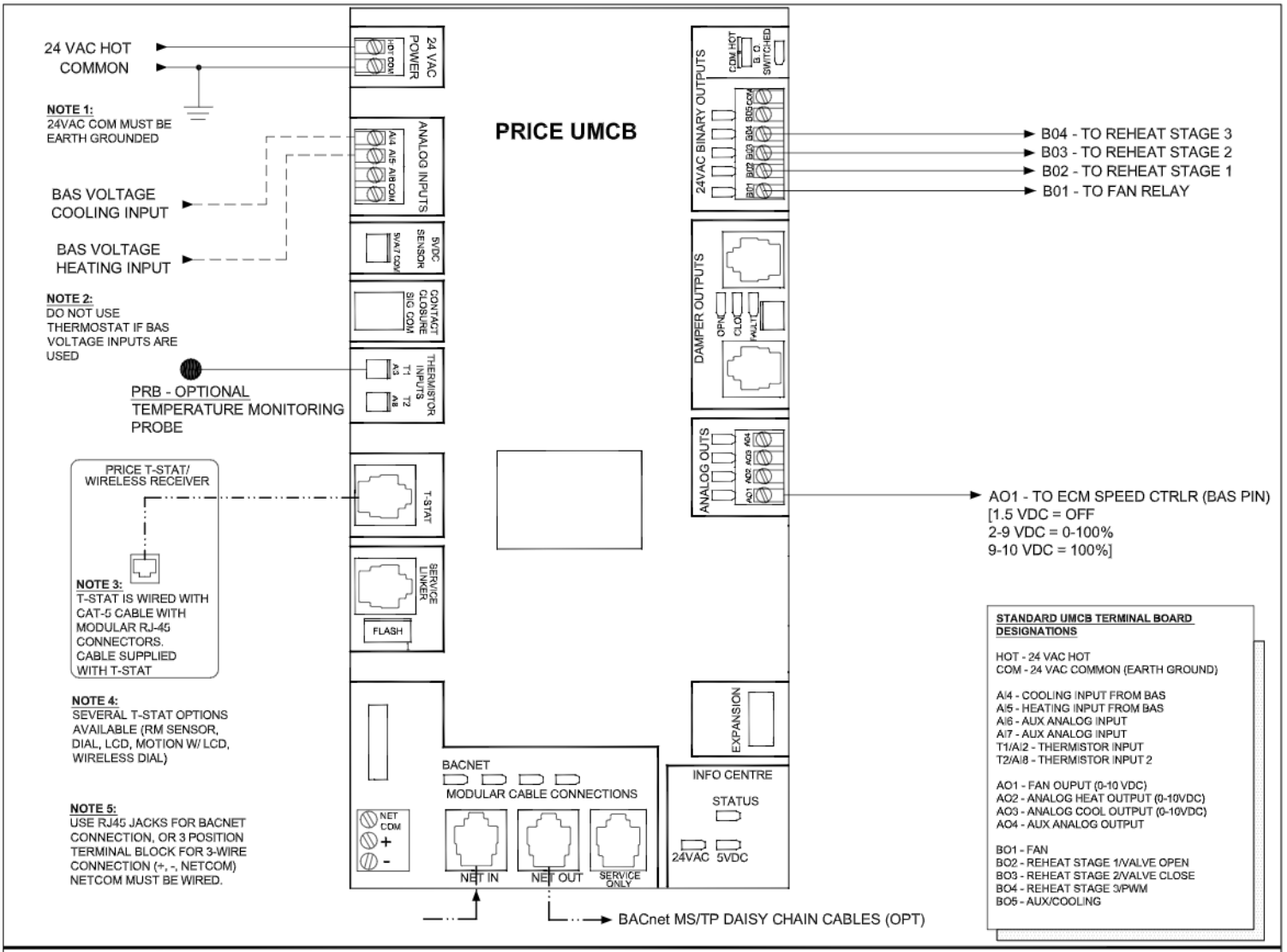
Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

PROJECT:		
ENGINEER:	BC MB	**UNDERFLOOR UMCB CONTROLS** MODULATING FAN CLG & HTG ANAOLOG REHEAT ECM MOTOR
CUSTOMER:	249561	
SUBMITTAL DATE:	**SPEC. SYMBOL:** 2018/03/01	

REV G

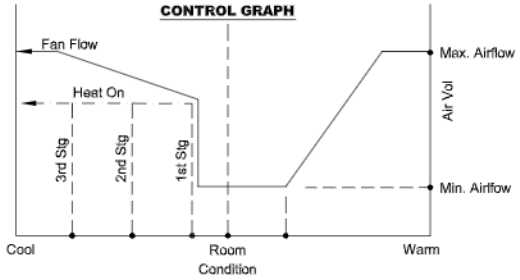
UNDER FLOOR DIGITAL CONTROLS

Control Sequence Number 9802



LEGEND

- PRICE NETC35 (RJ-45) - PLENUM CABLE - FIELD WIRED
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING



Sequence of Operation -- Cooling with Modulating Fan; up to 3 stages of Electric Heat with Modulating Fan

Cooling: On an increase in space temperature the controller modulates the fan speed to increase the flow of cool air. On an increase in space temperature greater than the cooling proportional band the fan speed is maintained at its pre-selected maximum setting.

Heating : On a decrease in space temperature the controller modulates the fan speed to the minimum heating flow. The stages of reheat are then energized sequentially and proportional to the room demand, while the fan speed is modulated to increase the flow of warm air. On an increase in space temperature greater than the heating proportional band all three stages of heat (if used) remain energized, and the fan speed is maintained at its pre-selected maximum setting.
Note: BO1 Fan output will energize prior to the heating outputs, allowing the fan to engage before the heat is enabled.

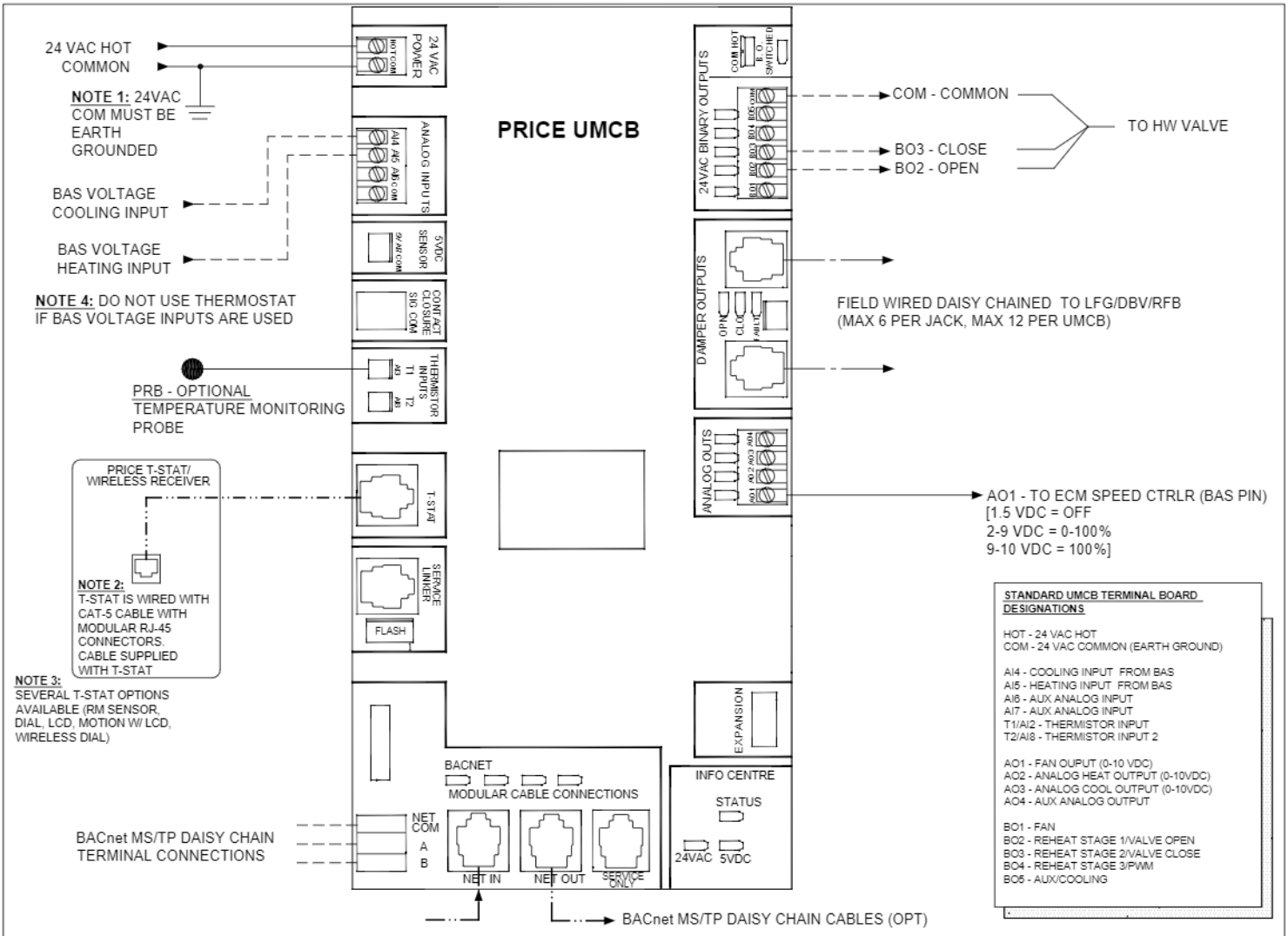
Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

PROJECT:		
ENGINEER:	BC MB	**UNDERFLOOR UMCB CONTROLS** MODULATING FAN CLG & HTG 1-3 STAGES BINARY REHEAT ECM MOTOR
CUSTOMER:	249562	
SUBMITTAL DATE:	**SPEC. SYMBOL:** 2018/03/05	

REV G

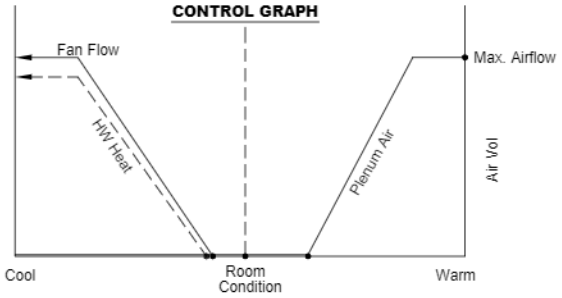
UNDER FLOOR DIGITAL CONTROLS

Control Sequence Number 9803



LEGEND

- PRICE SUPPLIED C25 (RJ-12) - PLENUM CABLE - FIELD WIRED
- PRICE NETC35 (RJ-45) - PLENUM CABLE - FIELD WIRED
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING



Sequence of Operation -- Plenum Cooling; Tristate Heat with Modulating Fan.
On power up the damper will calibrate open to the plenum for 2 minutes.

Cooling: On an increase in space temperature, the controller regulates the VAV floor diffuser actuators to increase the flow of cool plenum air. On an increase of space temperature greater than the cooling proportional band, the floor diffusers are maintained at their pre-selected maximum setting.

Heating: On a decrease in space temperature, the controller regulates the VAV floor diffuser actuators closed to the plenum. The controller modulates the heating valve to increase the heat proportionally to the room demand while the fan is modulated to increase the flow of warm air. On an increase in space temperature greater than the heating proportional band, the fan speed is maintained at its pre-selected maximum setting.

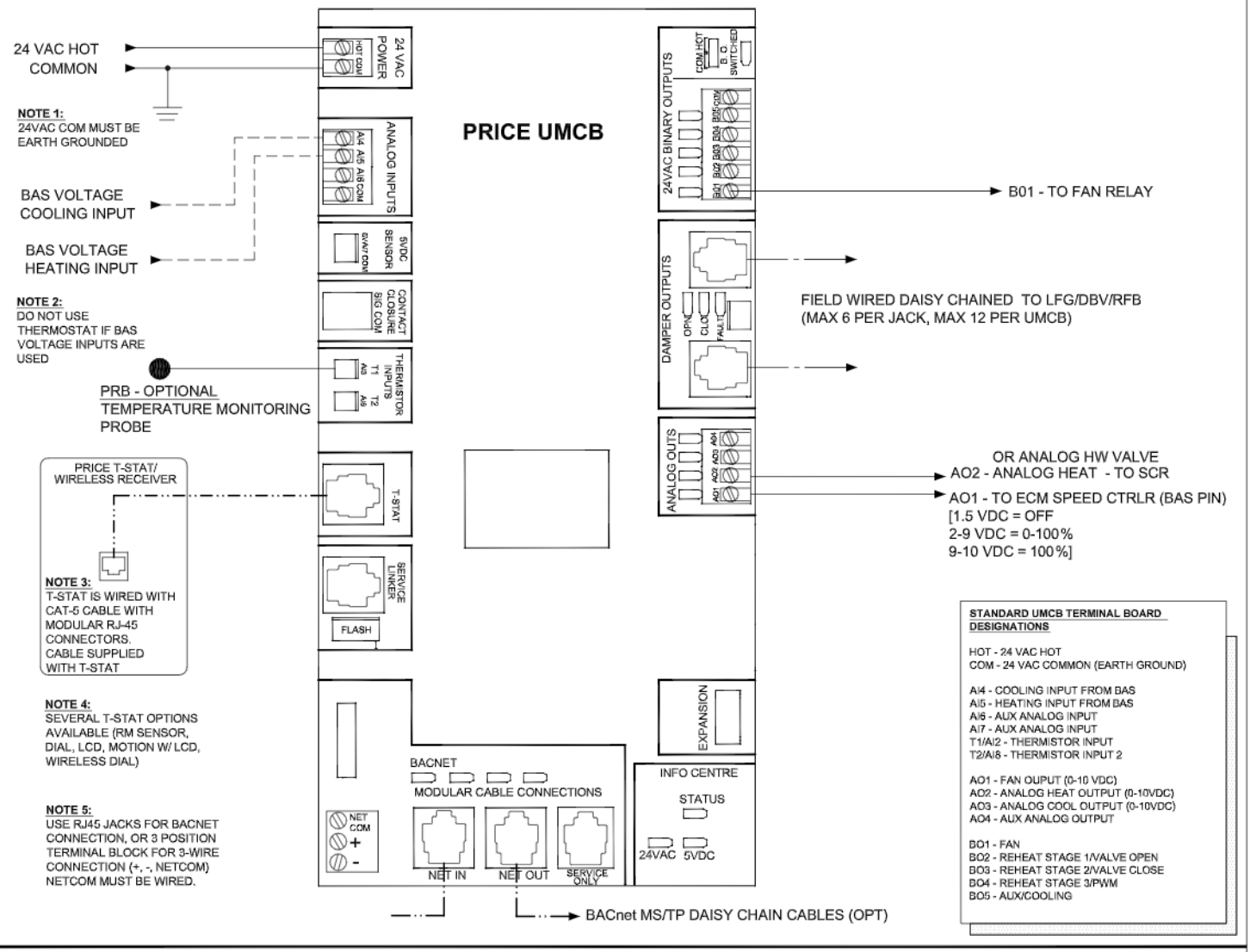
Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

PROJECT:		
ENGINEER:		**UNDER FLOOR UMCB CONTROLS** VAV Plenum CLG Modulating Fan on Reheat Tristate Reheat ECM Motor
CUSTOMER:	249563	
SUBMITTAL DATE: **SPEC. SYMBOL:**	2009/02/25	

REV E

UNDER FLOOR DIGITAL CONTROLS

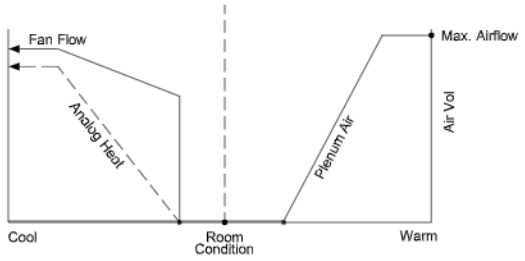
Control Sequence Number 9804



LEGEND

- PRICE SUPPLIED C25 (RJ-12) - PLENUM CABLE - FIELD WIRED
- PRICE NETC35 (RJ-45) - PLENUM CABLE - FIELD WIRED
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Plenum Cooling; Analog Heat with Modulating Fan
On power up the damper will calibrate open to the plenum for 2 minutes.

Cooling: On an increase in space temperature, the controller regulates the VAV floor diffuser actuators to increase the flow of cool plenum air. On an increase of space temperature greater than the cooling proportional band, the floor diffusers are maintained at their pre-selected maximum setting.

Heating: On a decrease in space temperature, the controller regulates the VAV floor diffuser actuators closed to the plenum, and the fan speed to the minimum heating flow. The analog heat output is modulated to increase the heat proportionally to the room demand while the fan speed is modulated to increase the flow of warm air. On an increase in space temperature greater than the heating proportional band, the fan speed and the analog heat output are maintained at their pre-selected maximum settings.

Note: BO1 Fan output will energize prior to the heating outputs, allowing the fan to engage before the heat is enabled.

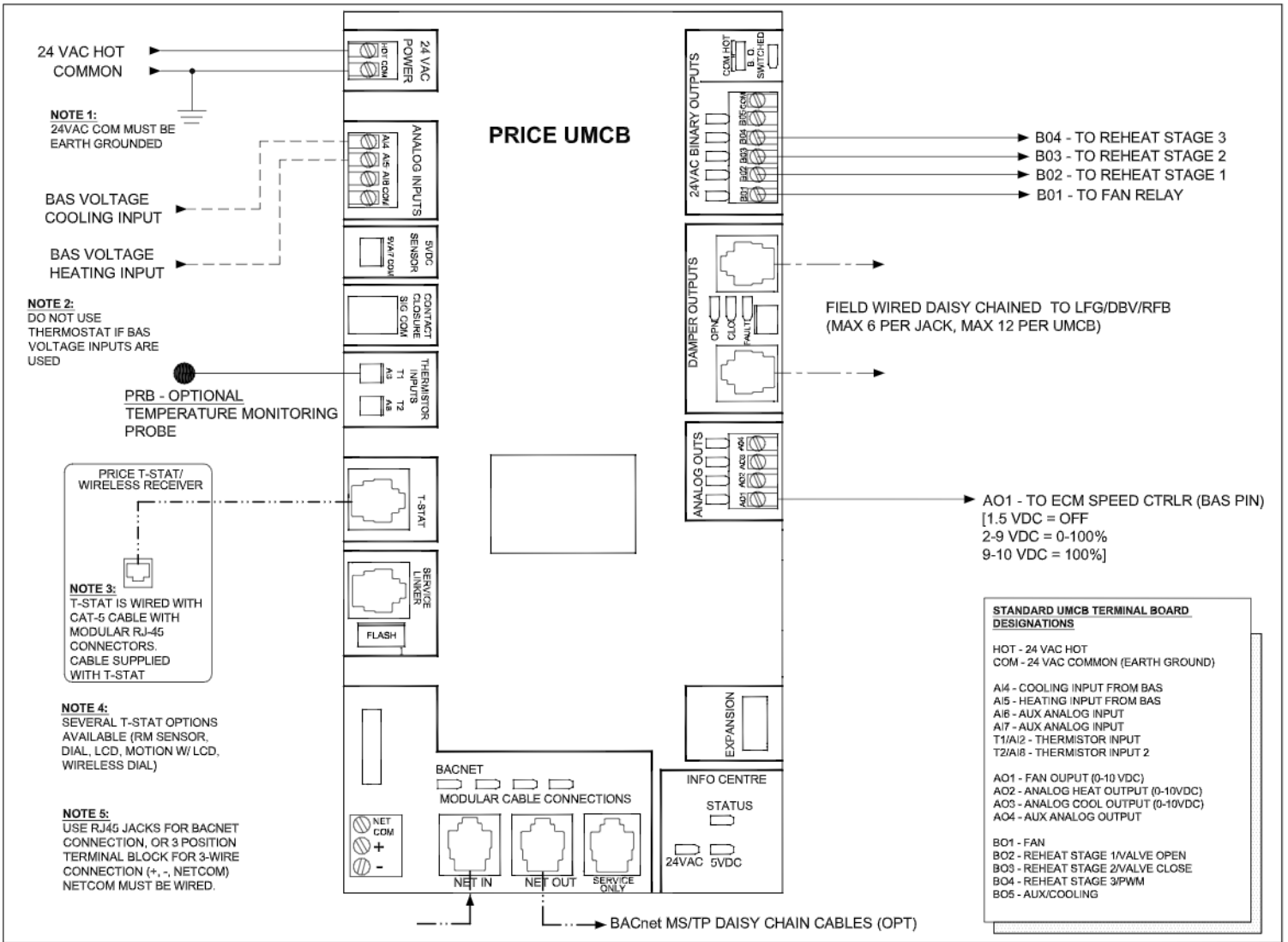
Calibration note: Suitable min and max heating flows must be selected in order to maintain flow through energized electric coils of at least 200 fpm and at least 70 cfm/kW throughout the entire operating range.

PROJECT:		
ENGINEER:	BC MB	**UNDERFLOOR UMCB CONTROLS** VAV PLENUM CLG MODULATING FAN ON REHEAT ANALOG REHEAT ECM Motors
CUSTOMER:	249564	
SUBMITTAL DATE:	**SPEC. SYMBOL:** 2017/08/18	

REV G

UNDER FLOOR DIGITAL CONTROLS

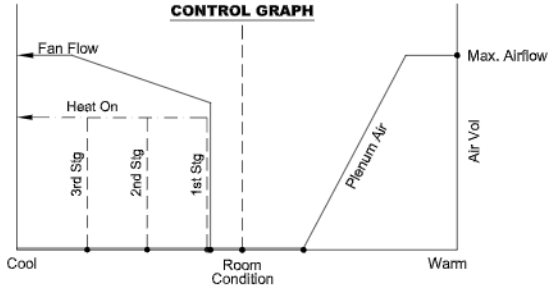
Control Sequence Number 9805



LEGEND

- PRICE SUPPLIED C25 (RJ-12) - PLENUM CABLE - FIELD WIRED
- PRICE NETC35 (RJ-45) - PLENUM CABLE - FIELD WIRED
- FACTORY ELECTRICAL WIRING
- FIELD ELECTRICAL WIRING

CONTROL GRAPH



Sequence of Operation -- Plenum Cooling; up to 3 Stage Electric Heat with Modulating Fan
On power up the damper will calibrate open to the plenum for 2 minutes.

Cooling: On an increase in space temperature, the controller regulates the VAV floor diffuser actuators to increase the flow of cool plenum air. On an increase of space temperature greater than the cooling proportional band, the floor diffusers are maintained at their pre-selected maximum setting.

Heating: On a decrease in space temperature, the controller regulates the VAV floor diffuser actuators closed to the plenum, and the fan speed to the minimum heating flow. The stages of reheat are then energized sequentially and proportional to the room demand, while the fan speed is modulated to increase the flow of warm air. On an increase in space temperature greater than the heating proportional band all three stages of heat (if used) remain energized, and the fan speed is maintained at its pre-selected maximum setting.

Note: BO1 Fan output will energize prior to the heating outputs, allowing the fan to engage before the heat is enabled.

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

PROJECT:			
ENGINEER:		BC MB	**UNDERFLOOR UMCB CONTROLS** VAV PLENUM CLG MODULATING FAN ON REHEAT 1-3 STAGES OF BINARY REHEAT ECM Motor
CUSTOMER:		249565	
SUBMITTAL DATE:	**SPEC. SYMBOL:**	2018/03/05	

REV G