



# Quick Start and Operations Manual

**OM 1355**

Group: Applied Air Handling

Part Number: OM 1355

Date: November 2022

## Rebel Applied™ Refrigeration Only Controls (ROC) Rooftop Systems

### Model DPSA

The following is a quick start guide for your new super-efficient Rebel Applied rooftop unit. Follow these step-by-step procedures for getting the rooftop unit started in the most efficient way. **Read IM 1287 and OM 1288 before operating the unit and adhere to procedures/hazard identifications within the manuals. IM 1287's warranty registration form includes initial start-up, fan, mechanical cooling, and heating start-up procedures that must be followed with this quick start guide.** NOTE: Refrigerant pressures, subcooling, and superheat can be checked from the MicroTech® 4 unit controller. Refrigerant gauges are not required when doing start-up. Schrader fittings are for evacuation and charging purposes only except if there is a problem that would require conformation of transducer readings.

### Operational, Installation and Maintenance Resources (read before operation)

- Rebel Applied Installation/Startup Manual . . . . IM 1287
- MicroTech® 4 Unit Controller . . . . . OM 1288
- Rebel Applied Unit Controller Protocol Info . . . ED 19117

### Unit Inspection (perform before operation)

1. Visually inspect unit for damage outside and inside unit. Note any damage. Claims for freight damage must be filed by the consignee.
2. Confirm unit location meets ventilation and service clearance recommendations as stated in IM 1287 "Unit Clearances".
3. Confirm unit condensate drain has been installed per IM 1287 "Unit Piping – Condensate Drain Connection".
4. On VAV units, confirm that the duct static pressure sensor tubing and/or building static pressure tubing has been installed per IM 1287 "Installing Duct Static Pressure Taps".
5. Confirm the discharge air sensor in the supply duct
6. Confirm all field wiring is complete.

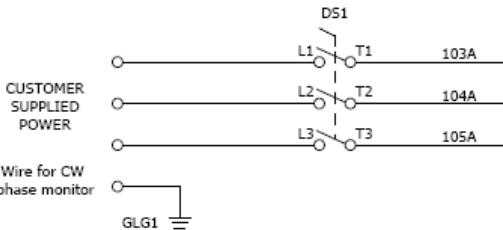
**NOTE:** Remove power when making field connections. Damage to the controller could result in making connections with the power applied.

## Main Power Supply

### STEP 1

Confirm that the electrical power wiring lugs are tight. Check for proper voltage as per submittal and the wiring diagram included with unit.

**NOTE:** Incoming power is not to exceed a voltage imbalance of 2%



### STEP 2

Using A Phase Sequencing Tester Confirm Power Source Or Sources If Multiple, Are All Phased Correctly For Clockwise Rotation.

## Passwords

### STEP 3

Various menu functions are accessible or inaccessible, depending on the access level of the user, and the password they enter, if any.

There are four access levels, including no password, Level 2, Level 4, and Level 6, with Level 2 having the highest level of access. Without entering a password, the user has access only to basic status menu items. Entering the Level 6 password (**5321**) allows access to the Alarm Lists Menu, Quick Menu, and the View/Set Unit Menus group. Entering the Level 4 password (**2526**) allows similar access as Level 6 with the addition of the Commission Unit Menu, Manual Control, and Service Menu groups. Entering the Level 2 password (**6363**) allows similar access as Level 4 with the addition of the Unit Configuration Menu.

The main password page is displayed when the keypad/display is first accessed the Home Key is pressed, the Back Key is pressed multiple times, or if the keypad/display has been idle longer than the Password Timeout (default 10 minutes). The main password page provides access to enter a password, access the Quick Menu, view the current Unit State, access the alarm lists or view information about the unit. Alarms can be acknowledged without entering a password.

## Supply Fan Operation

### STEP 4

The field provided controller shall send fan control signals to the Microtech 4 (MT4). The field must supply a 0-10VDC signal to X5 landing on wired terminals. 0V is no fan movement, 10V is max fan output. This signal will ramp the fan array as a whole, not the fans individually.

#### CAUTION

Before sending command signal to the fan array, the unit must have unobstructed airflow. For 100% OA units, the OA dampers need to be fully actuated to the Open position. Not opening the dampers for airflow will cause damage to the unit by over pressurizing the cabinet.

**NOTE:** Daikin Applied® is not responsible for damage to the unit due to improper control of the dampers.

## Return Fan Operation

### STEP 5

The field provided controller shall send fan control signals to the Microtech 4 (MT4). The field must supply a 0-10VDC signal to X6 landing on wired terminals. 0V is no fan movement, 10V is max fan output. See page 5 of the unit's wiring diagrams for more information.

## Cooling Operation

### STEP 6

Cooling can only be initiated if the following are met:

- Active supply fan signal to X5
- Cooling enable interlock closed to DI2

Field provided controller needs to provide a 1-10V signal to X1 landing on wired terminals, where 1V is minimum cooling and 10V is maximum cooling capacity. See page 5 of the unit's wiring diagrams for more information.

The current cooling capacity is outputted in a 0-10VDC signal to X2 landing on wired terminals.

If the field wishes to disable cooling on an emergency sequence, the field controller needs to open DI4. See schematics for details.

## Heating Operation

### STEP 7

#### Gas Heat

Heating can only be enabled if the following are met:

- Active supply fan signal
- Heat enable on the furnace control board contact to wire terminal blocks are closed. Refer to unit wiring diagrams for enable contact location on page 12.

Furnace controls must be sequenced in ascending voltage signal (1-10V) to produce full turndown. Refer to appendix A for staging information.

Heating operation should be disabled by the following sequence:

1. Furnace enable contact on wire terminal blocks are open.
2. Heat rise across the heater suggests heat is dissipated
  - A recommendation is to run the supply fan for 120 seconds at minimum to allow the heating elements to dissipate heat.

#### CAUTION

The Field provided controller is responsible for monitoring entering and leaving discharge air temperature to calculate heat rise across the furnace. Furnaces are tested to a 100-degree temp rise. Going above the 100-degree temp rise can cause damage to the unit and sensing elements.

**NOTE:** Daikin Applied® is not responsible for damage to the unit due to improper control of the heater.

### Electric Heat

Heating can only be enabled if the following are met:

- Active supply fan signal
- Send a heat modulation signal (1-10VDC) to landing 222 and 222C on wired terminals. Refer to page 6 of the unit wiring diagram
- Heat control signal is sent to the MT4 controller.

Heating operation should be disabled by the following sequence:

1. Heat enable contact is open
2. Heat rise across the heater suggests heat is dissipated (heat rise is trending downwards)
  - A recommendation is to run the supply fan for 120 seconds at minimum to allow the heating elements to dissipate heat.

#### CAUTION

The Field provided controller is responsible for monitoring entering and leaving discharge air temperature to calculate heat rise across the furnace. Furnaces are tested to a 100-degree temp rise. Going above the 100-degree temp rise can cause damage to the unit and sensing elements.

**NOTE:** Daikin Applied® is not responsible for damage to the unit due to improper control of the heater.

### Hot Water Heat

Heating can only be enabled if the following are met:

- Active supply fan signal
- Send a heat signal to X1 on wired terminal on expansion board A. Refer to page 6 of the unit wiring diagram

Heating operation should be disabled by the following sequence:

1. Heat enable contact is open
2. Heat rise across the heater suggests heat is dissipated (heat rise is trending downwards)
  - A recommendation is to run the supply fan for 120 seconds at minimum to allow the heating elements to dissipate heat.

#### CAUTION

The Field provided controller is responsible for monitoring entering and leaving discharge air temperature to calculate heat rise across the heating element. Elements are tested to a 100-degree temp rise. Going above the 100-degree temp rise can cause damage to the unit and sensing elements.

#### CAUTION

Refrigerant only control does not have an emergency operation sequence in the event of cold weather. To prevent damage to the coil, the field provided controls must have a sequence to operate the coil as they see fit to prevent damage to the coil.

**NOTE:** Daikin Applied® is not responsible for damage to the unit due to improper control of the heater.

## Wiring Diagram Example:

Refrigerant only control does not have an emergency operation sequence in the event of cold weather. To prevent damage to the coil, the field provided controls must have a sequence to operate the coil as they see fit to prevent damage to the coil.

**Figure 1: Typical Rebel Applied Wiring Diagram**

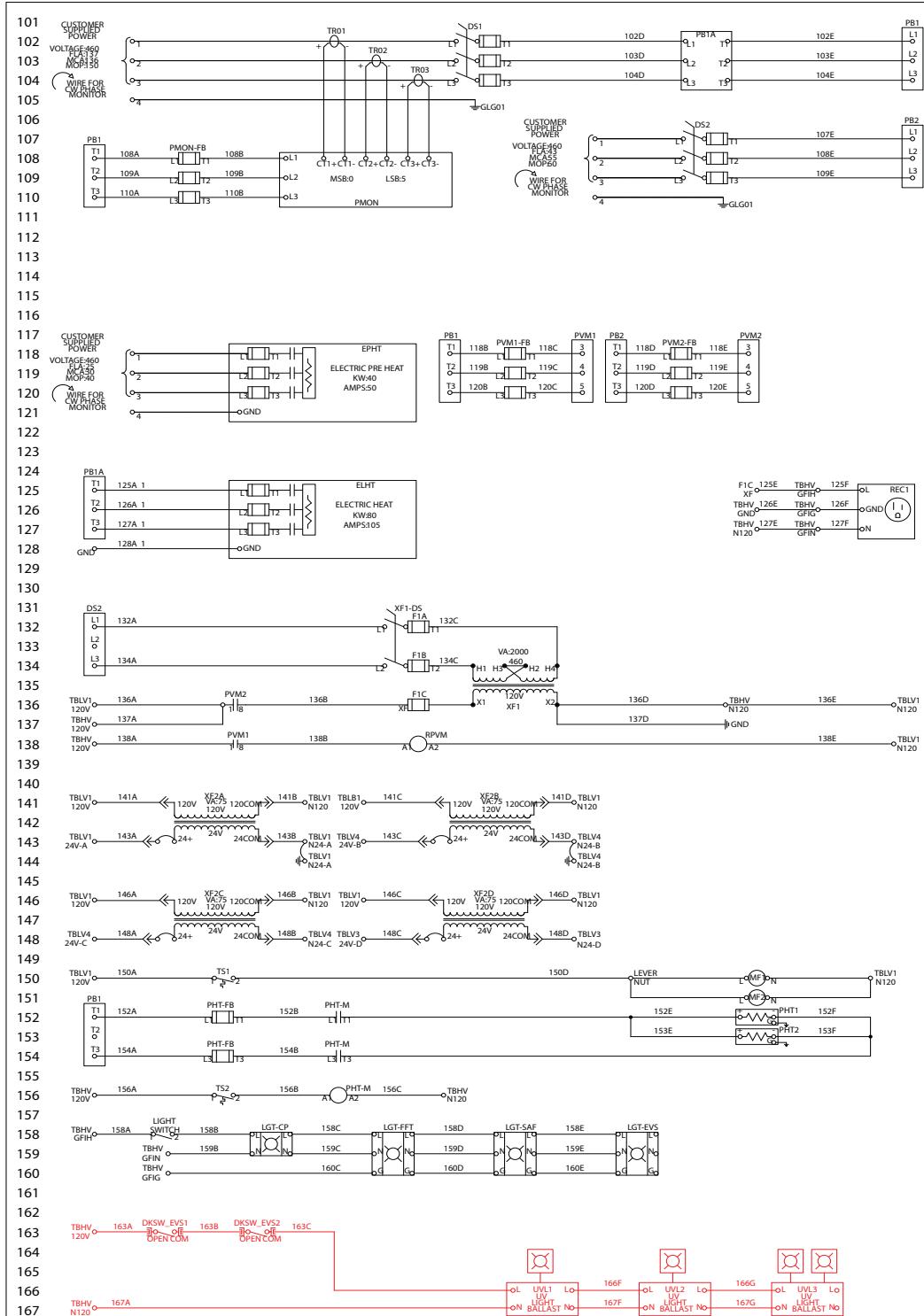
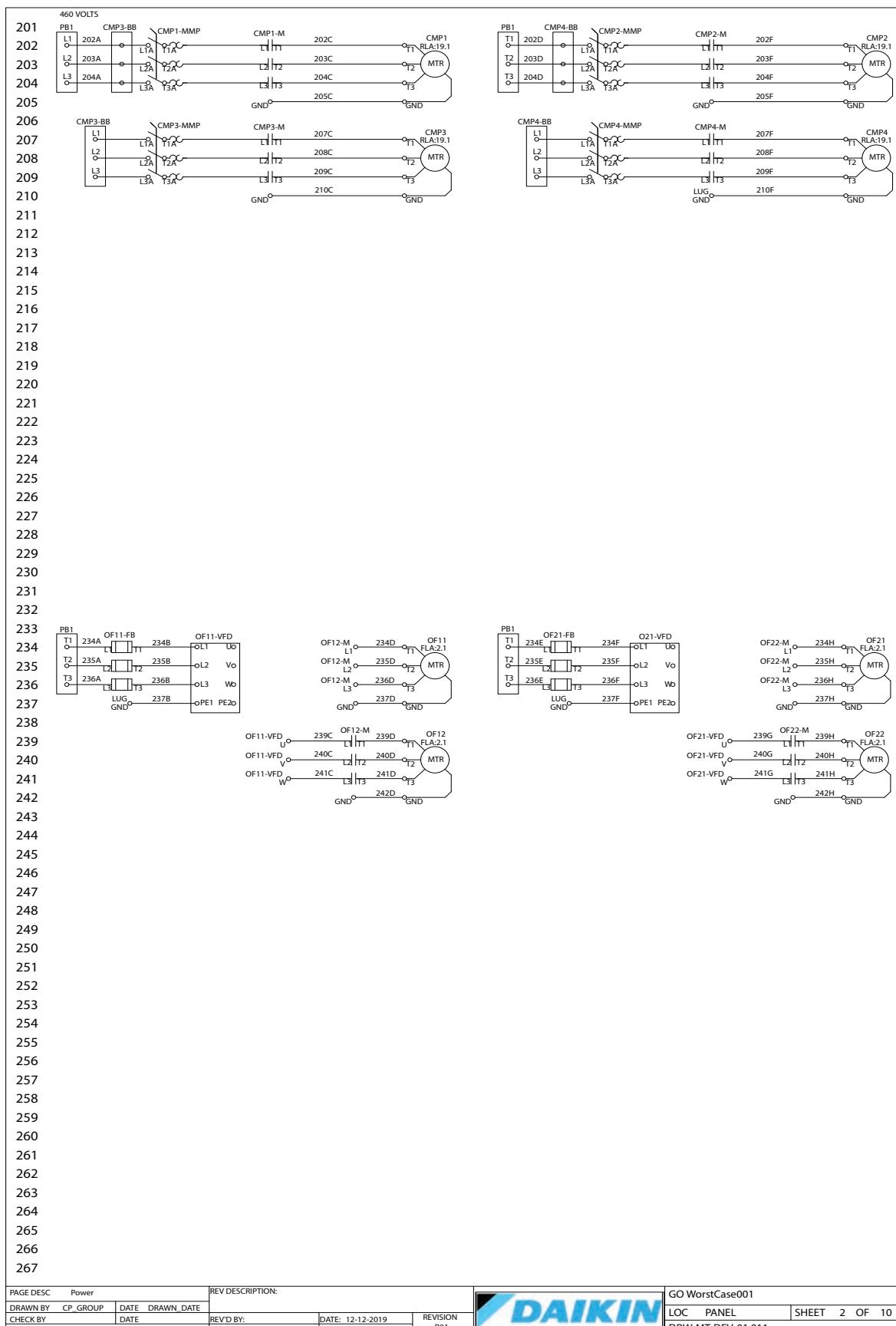


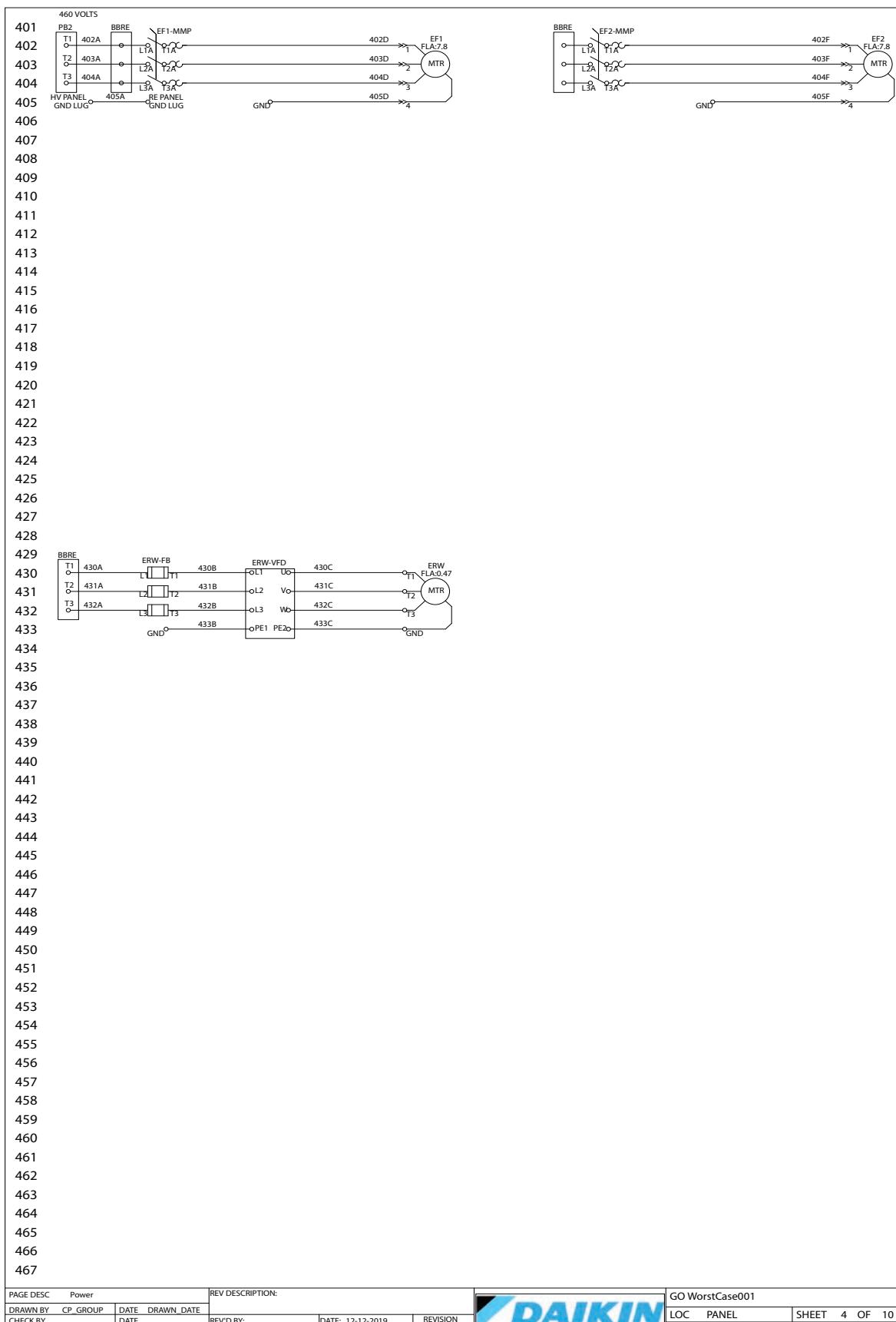
Figure 2: Typical Rebel Applied Wiring Diagram (continued)



**Figure 3: Typical Rebel Applied Wiring Diagram  
(continued)**

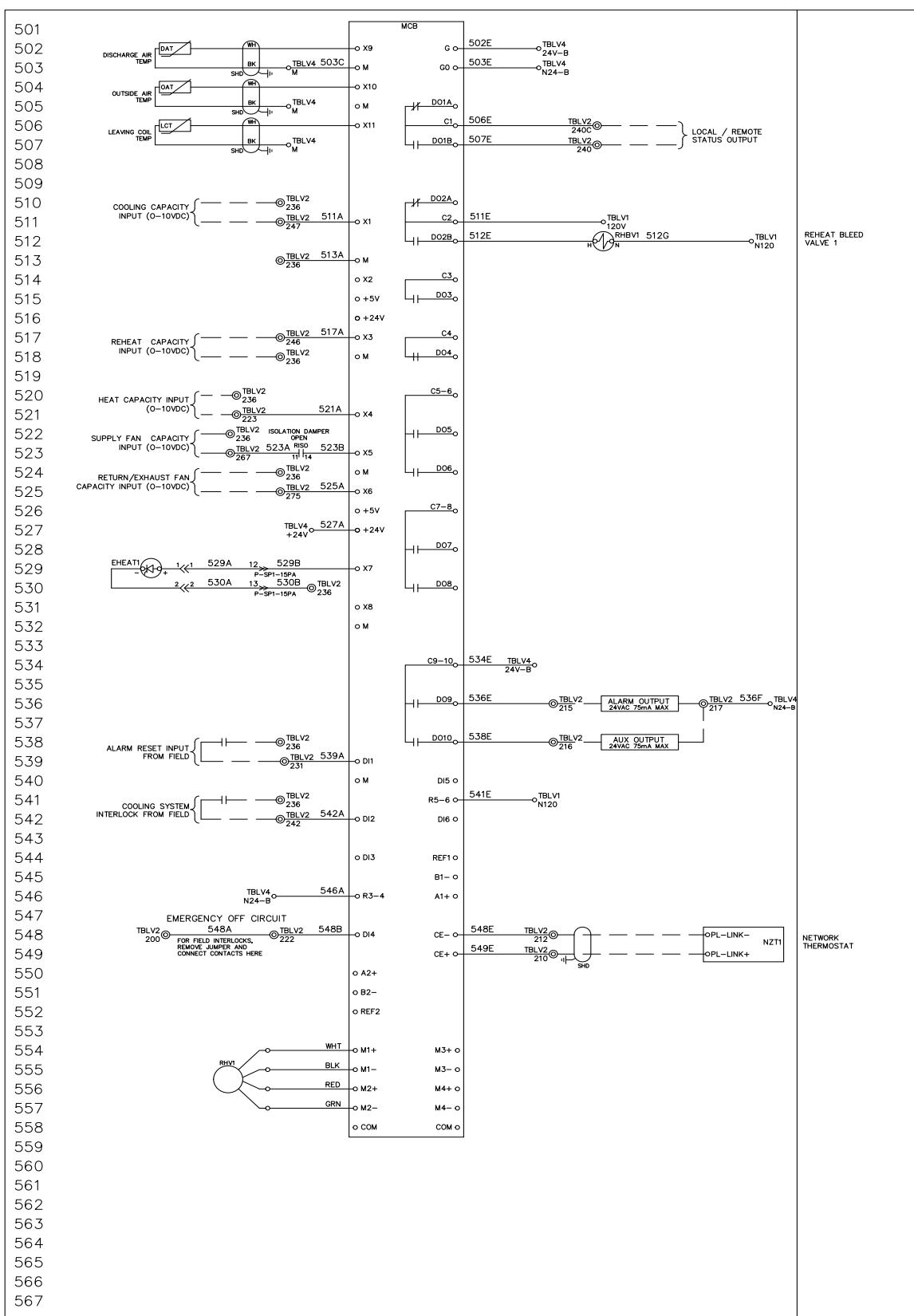


Figure 4: Typical Rebel Applied Wiring Diagram (continued)



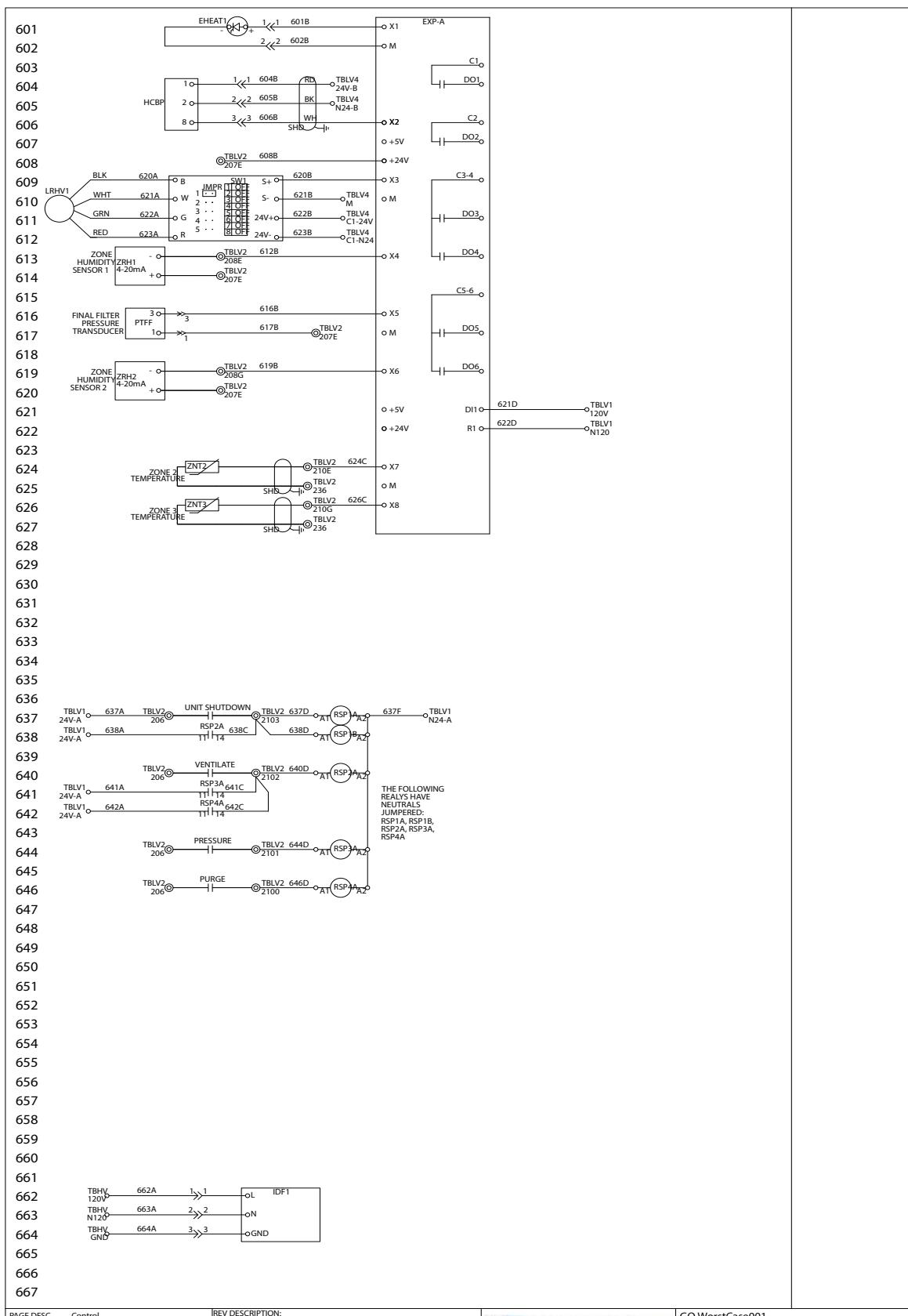
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Figure 5: Typical Rebel Applied Wiring Diagram (continued)



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Figure 6: Typical Rebel Applied Wiring Diagram (continued)



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**Figure 7: Typical Rebel Applied Wiring Diagram (continued)**

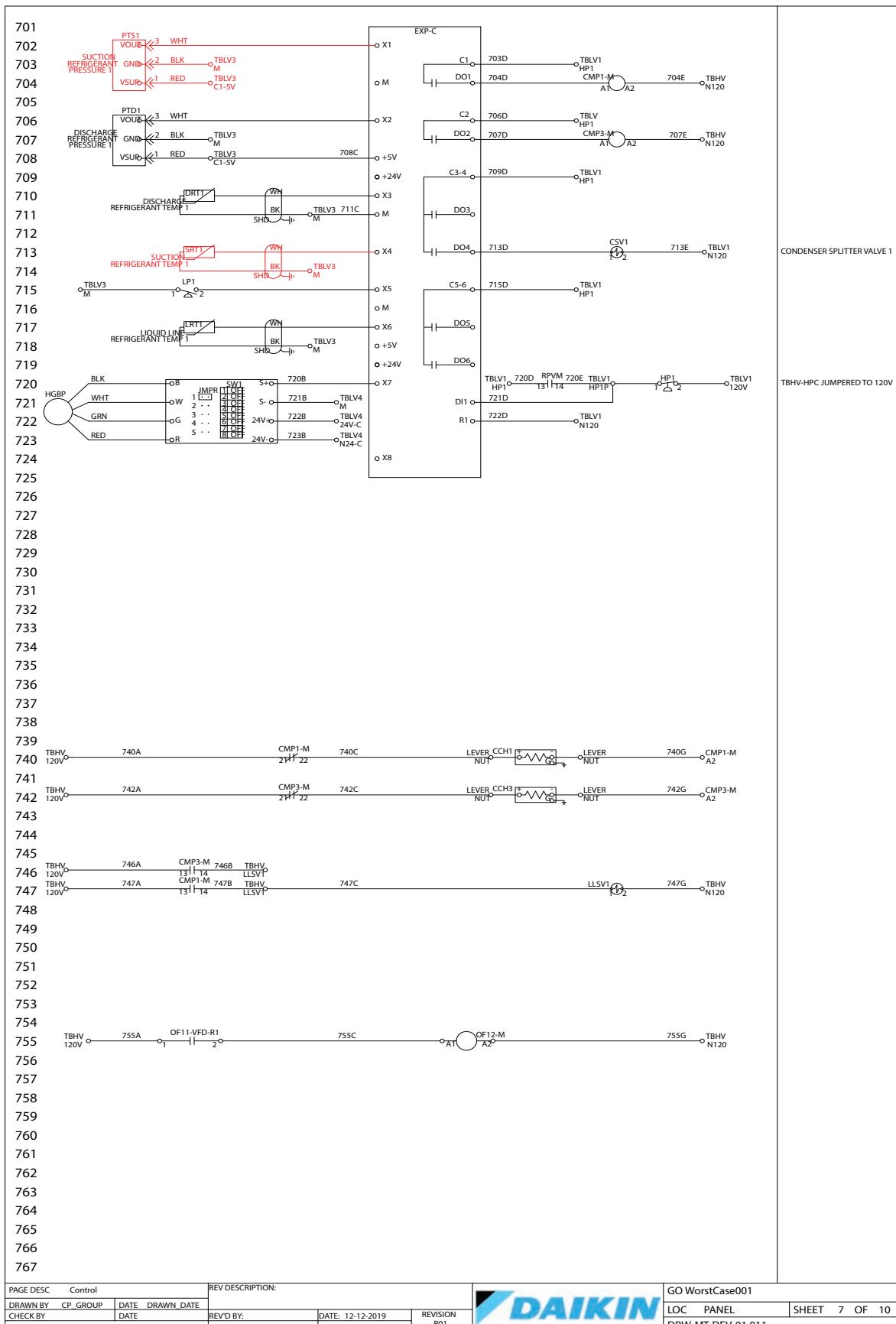
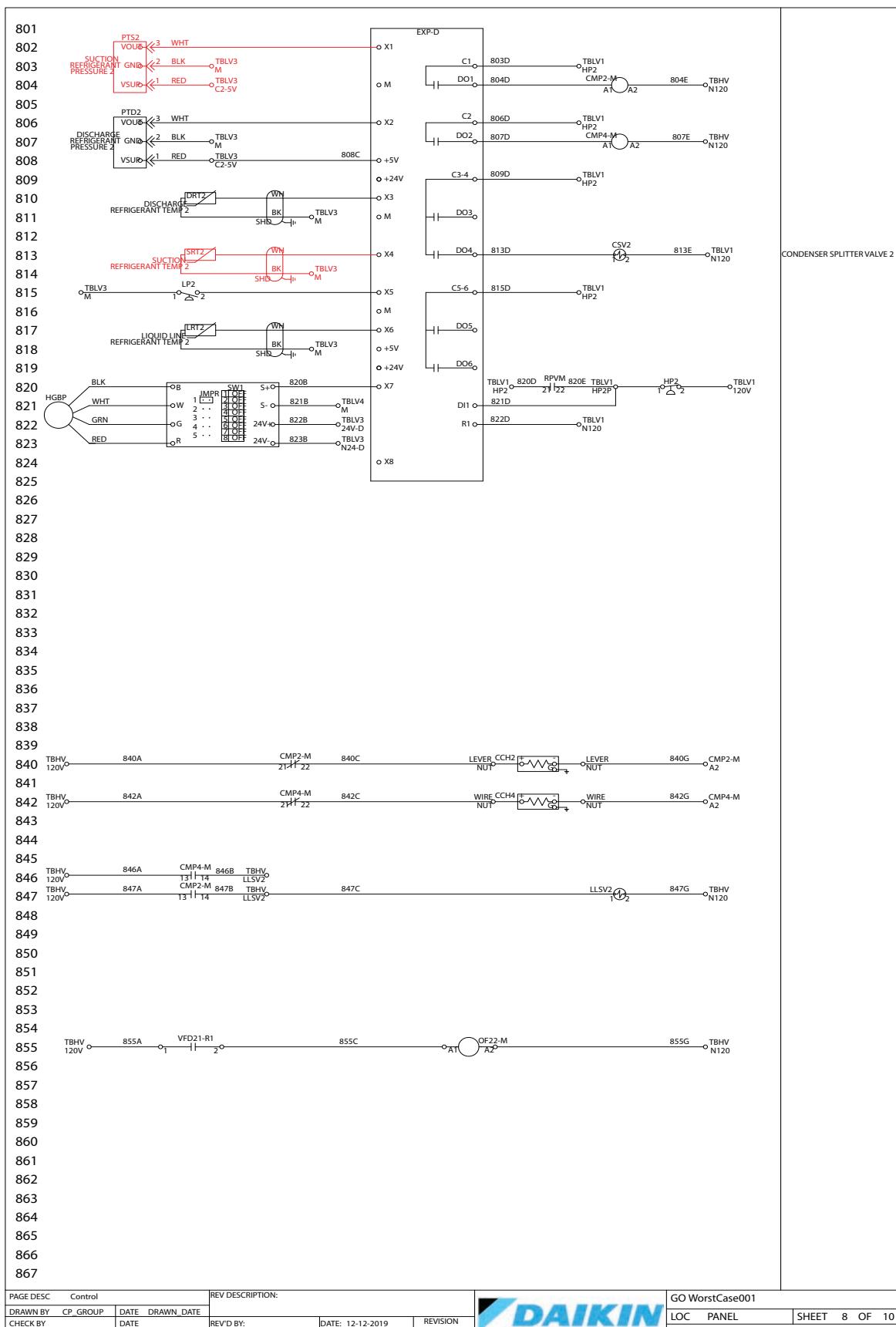
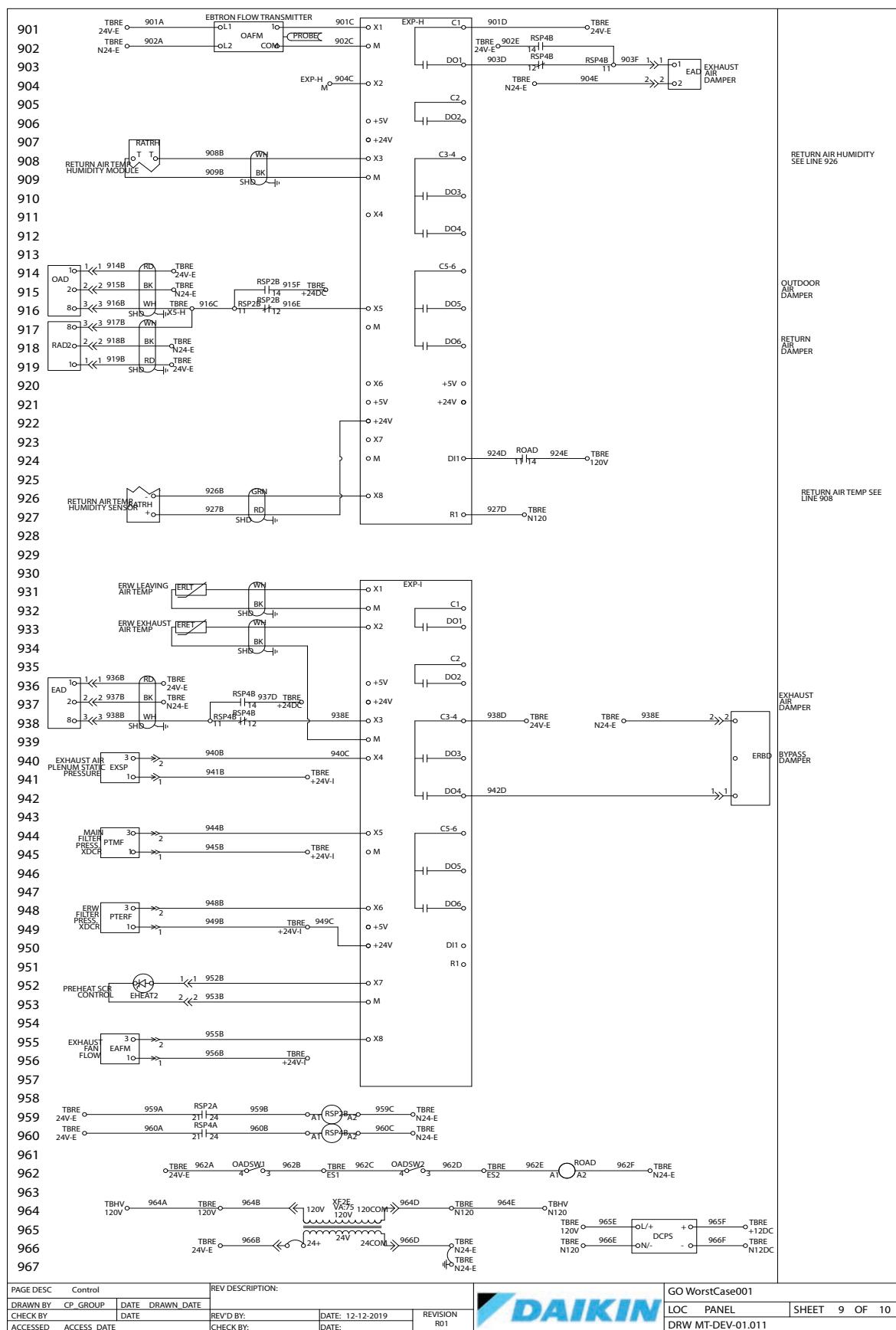


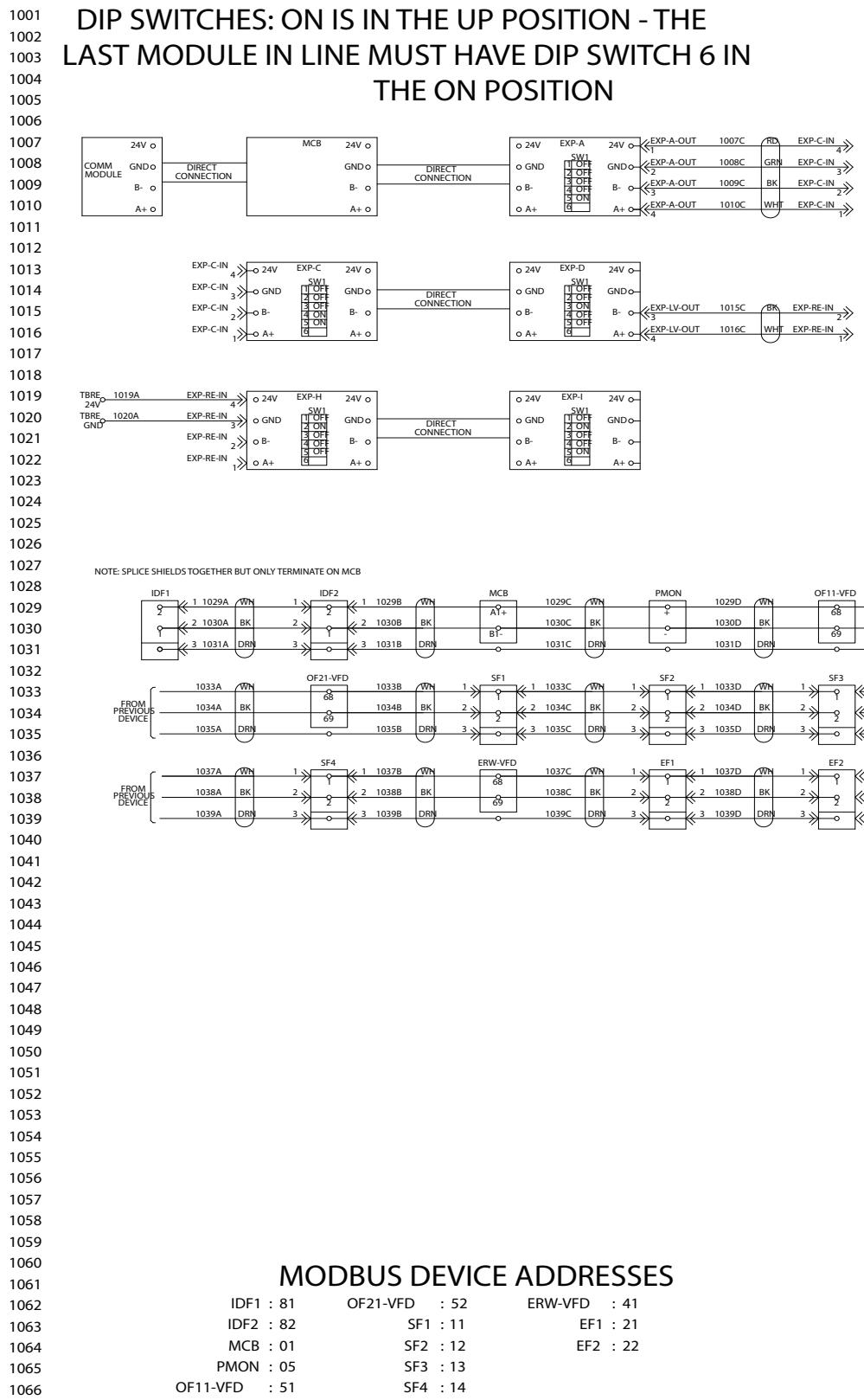
Figure 8: Typical Rebel Applied Wiring Diagram (continued)



**Figure 9: Typical Rebel Applied Wiring Diagram (continued)**



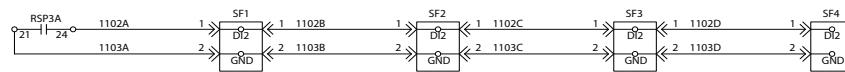
**Figure 10: Typical Rebel Applied Wiring Diagram  
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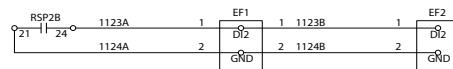
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**Figure 11: Typical Rebel Applied Wiring Diagram  
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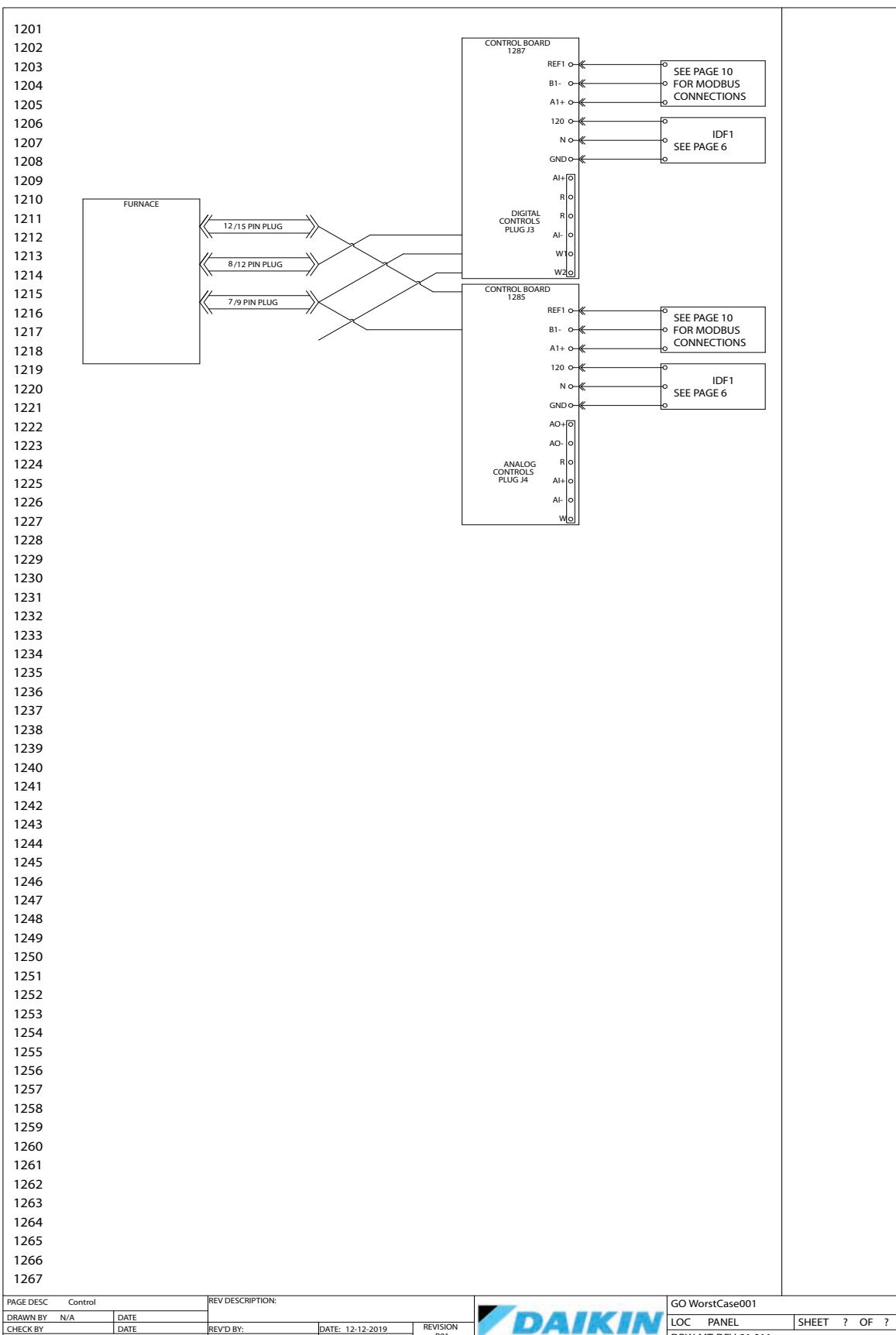
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Figure 12: Typical Rebel Applied Wiring Diagram (continued)











### ***Daikin Applied Training and Development***

Now that you have made an investment in modern, efficient Daikin equipment, its care should be a high priority. For training information on all Daikin HVAC products, please visit us at [www.DaikinApplied.com](http://www.DaikinApplied.com) and click on Training, or call 540-248-9646 and ask for the Training Department.

### ***Warranty***

All Daikin equipment is sold pursuant to its standard terms and conditions of sale, including Limited Product Warranty. Consult your local Daikin Applied Representative for warranty details. To find your local Daikin Applied Representative, go to [www.DaikinApplied.com](http://www.DaikinApplied.com).

### ***Aftermarket Services***

To find your local parts office, visit [www.DaikinApplied.com](http://www.DaikinApplied.com) or call 800-37PARTS (800-377-2787). To find your local service office, visit [www.DaikinApplied.com](http://www.DaikinApplied.com) or call 800-432-1342.

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Products manufactured in an ISO Certified Facility.