



Installation and Maintenance

IM 1324-2

Group: Applied Air Systems

Part Number: IM 1324

Date: January 2022

Daikin Applied Maverick II Unit Controller

Maverick II MicroTech II to MicroTech III Unit Controller Conversion



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Warnings and Disclaimers

The following compiles a list of warnings and notes associated with the installation and operation of this kit. Make sure to follow these warnings, as well as always having properly trained technicians and electricians, or Daikin-authorized technicians perform work.

Hazardous Information Messages

⚠ CAUTION

Cautions indicate potentially hazardous situations, which can result in personal injury or equipment damage if not avoided.

⚠ WARNING

Warnings indicate potentially hazardous situations, which can result in property damage, severe personal injury, or death if not avoided.

⚠ DANGER

Dangers indicate a hazardous electrical situation which will result in death or serious injury if not avoided.

⚠ DANGER

Dangers indicate a hazardous gas situation which will result in death or serious injury if not avoided.

ⓘ NOTICE

Notices give important information concerning a process, procedure, special handling or equipment attributes.

Parts Included - Kit Number 300066938

Description	Daikin Part Number	Quantity
Main Control Board - MTIII (MCB)	193407301	1
Expansion Module (EXP B)	193407501	1
Controller Terminal Block - 2 pole	193410302	3
Controller Terminal Block - 3 pole	193410303	7
Controller Terminal Block - 5 pole	193410305	1
Controller Terminal Block - 6 pole	193410306	1
Controller Terminal Block - 7 pole	193410307	2
Controller Terminal Block - 8 pole	193410308	4
Connector Extension - Direct	193409701	1
Connector Extension - Remote	193409901	1
Terminal 2x2 Spring Grey 2 Row Jumper Ports	349930641	20
Terminal 2x2 Spring Green 2 Row Jumper Ports (Ground)	349930647	5
Terminal Block End Stop Gray	874-144	10
Terminal Block End Plate Gray	349930741	10
Terminal Block Jumper 2 pole	349930942	3
Terminal Block Jumper 3 pole	349930943	3
Terminal Block Jumper 4 pole	349930944	3
Terminal Block Jumper 5 pole	349930945	10
Freezestat (FS1)	072502001	1
24 VAC Relays (OAER and R63)	910256665	2
DIN Rails (1 Meter)	349901938	2
White Wire Organizers 2" Depth	300044173	16
White Wire Organizers 2" Depth Cover	300044174	16
1k ohm resistor for freezestat	044690110	2
1.5k ohm resistor for frost protection	044690151	1
Separator	193414804	4

NOTE: Additional Parts Required

- Label Maker
- 18 AWG Wire
- Spade Connectors

Optional Parts

The following parts may need to be ordered for units if desired. These parts are not necessary for unit operation.

Description	Daikin Part Number	Quantity
Humidistat Sensor (Duct Mounted)	910190890	1
Humidistat Sensor (Wall Mounted)	067294901	1
HMI Display	350147416	1

Network Communication Card

Choose a network communication module from the list below if required. A 10-pin connector will also be required when installing a communication module.

Communication Module Type	Part Number
BACnet MSTP	90016710
BACnet Lon CAV	90016711
BACnet IP	90016709
BAC Lon VAV	90016712
10 pin connector	300047027

Approximate Labor Hours

The Maverick II MicroTech II to MicroTech III conversion process will require an estimated 32-48 hours of labor. The specified range of time required for completion is only to be used as a general guideline when preparing for the conversion process. Please note that the capabilities and experience of the service technician performing this work, as well as the individual jobsite conditions, could significantly affect the labor hour estimates.

Introduction

The purpose of this instruction manual is to guide a technician through the process of converting a MicroTech II (MicroTech II) control panel to a MicroTech III (MicroTech III) control panel on a Maverick II unit. The MicroTech III Unit Controller has an advanced navigation structure, improved metrics, trending data capability and network integration compatibility. Each Maverick II unit will have small differences, such as the number of compressors or using a Variable Frequency Drive for the supply fan. Recognizing these differences and following the instructions throughout this manual will ensure a successful conversion.

NOTE: Follow all Lock-Out Tag-Out procedures to minimize risks of injury during this procedure. Always use proper rigging and lifting procedures! Always wear appropriate levels of PPE governed by the hazards which are present.

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Labeling Wires

Figure 1 shows a typical control panel layout. The unit controller will be mounted on a DIN Rail within the control panel (See Figure 2). A network communication module may be inserted into the serial port of the MicroTech II unit controller. Before removing the unit controller and network communication module, each of the wires connected to the unit controller and network communication module must be labeled with a label maker. Refer to charts in Appendix G for information on wire labeling. Labeling the wires will allow the technician to be more organized and rewire the control panel correctly once the MicroTech III is installed.

Figure 1:

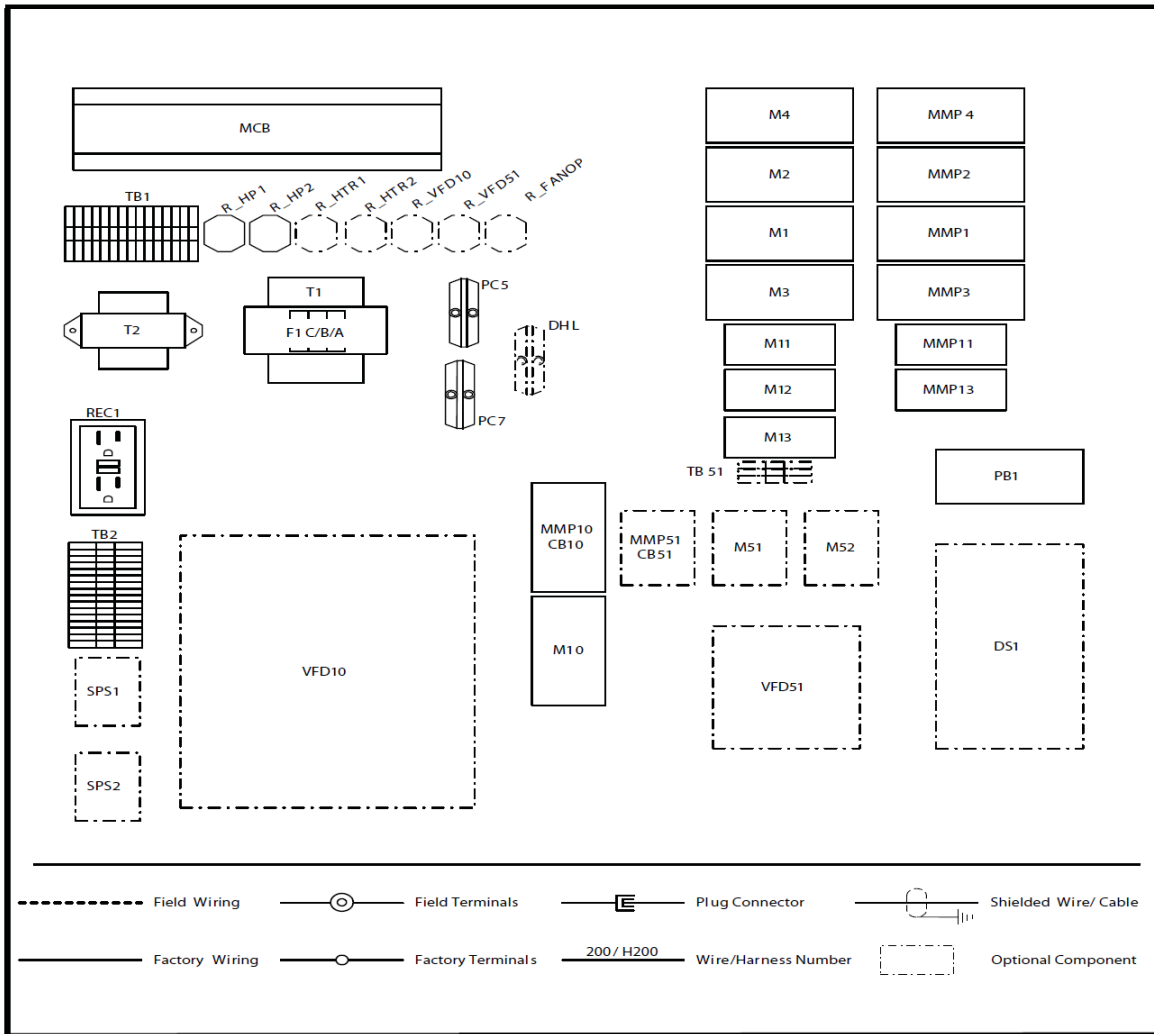


Figure 2:



MicroTech II Unit Controller Removal

Once each of the wires is labeled according to the charts in Appendix G, unplug all the wires from the MicroTech II Unit Controller. Leave all paired wires in their respective plugs to keep them organized. Remove the MicroTech II Unit Controller from the control panel.

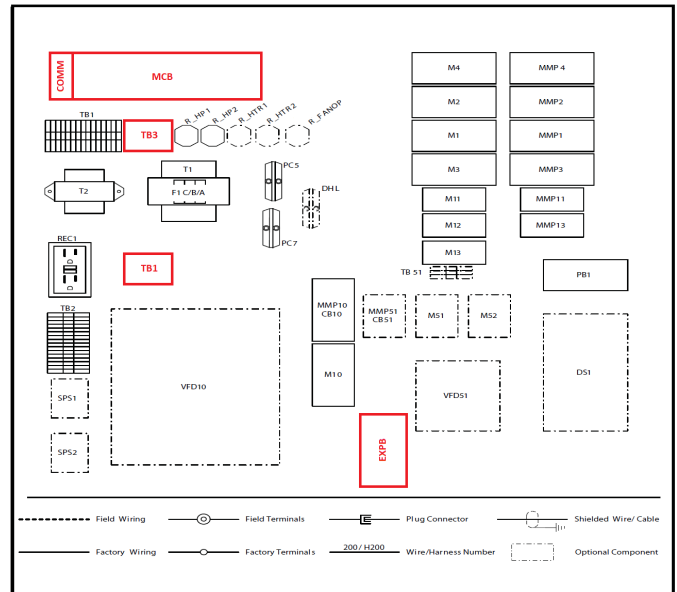
Installing DIN Rails, MicroTech III Main Control Board, Expansion Module(s), Relays, Terminal Blocks, and Wire Raceways

DIN Rails

Three separate DIN rails are required to mount the MicroTech III, Expansion Module, relays, and terminal blocks in the control panel. This kit includes a one-meter piece of DIN rail. Cut the DIN rail to length as needed. Figure 3 is an example of the position of each DIN rail in the control panel.

1. Cut the DIN rail to length as needed.
2. Use a level to ensure the components will mount properly to each DIN Rail.
3. Screw through the DIN rail holes and into the control panel sheet metal backing.
4. Adjust DIN rails as needed because space is limited within the control panel.

Figure 3:



MicroTech III and Expansion Modules

Follow the directions below when installing the MicroTech III and Expansion Module B.

1. Slide the MicroTech III Main Control Board onto the DIN rail and engage the tabs to secure it in place.
2. If Expansion Module B is able to be installed adjacent to the MicroTech III Main Control Board:
 - a. Slide the 4-pin connector into the left side of the Expansion Module.
 - b. Slide the other end into the right side of the MicroTech III Main Control Board.
3. If the Expansion Module B is not able to be installed next to the MicroTech III Main Control Board:
 - a. Slide the 4-pin remote connector for the remote Expansion Module B into the left side of the Expansion Module.
 - b. Wire the 4-conductor signal cable to the remote connector.
 - c. Wire the other side of the cable to the second 4-pin remote connector.
 - d. Slide the connector into the MicroTech III Main Control Board.
4. Once the Expansion Module B is installed, it must be addressed by setting the dip switches. In the lower right corner of an Expansion Module, there are six white switches with blue backing. Appendix A shows how these dip switches should be set, depending on the type of Expansion Board.

NOTE: The last Expansion Module must have the sixth dip switch in the “up” position. The sixth switch acts as an end-of-line resistor and stops the MicroTech III from looking for more Expansion Modules. See Appendix A for details.

Relays

The R63 relay is required to indicate when the DHL switch is open. The OAER Relay is required to indicate Outdoor Air Enthalpy Switch status. Slide the necessary relay(s) onto the DIN rail. Spacers can be used to separate the components on the DIN rail.

NOTE: If the unit does not have an Airside Economizer or one is not required, relay OAER Relay is not necessary.

Terminal Blocks

The MicroTech II control panel consists of two types of terminal blocks: general wiring terminal blocks and power terminal blocks. The general wiring terminal blocks are used for circuit interconnections and the power terminal blocks are used for a source of 24 VAC or 115 VAC power. The MicroTech II control panel should already be set up for these types of terminal blocks. However, reconfiguring and organizing the terminal blocks to may be necessary to support this conversion. Please see the Terminal Block Wiring part of this manual for more information.

Wire Raceways

The white wire raceways are designed to ensure an organized control panel. Mount the wire raceways as needed. Fasten wire raceways to the control panel with screws.

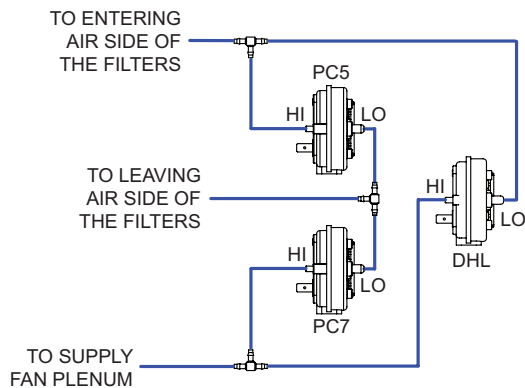
Installing Remote HMI Display

The Remote HMI Display can be field installed depending on user preference and/or site requirements. Mount the Remote HMI Display by using the magnets or screw terminals with anchors found on the back of the display. See IM-1005 for details on wiring.

Installing PC5, PC7, DHL Tubing and Duct Static Pressure Transducer

Install new tubing for the pressure switches, if necessary, and confirm that it matches the diagram in Figure 4. If the unit has a Variable Frequency Drive and the supply fan is designed to operate based on a Duct Static Pressure set point, a Duct Static Pressure transducer (DSP) will need to be installed. Install the Duct Static Pressure transducer by mounting it to the main control panel. See Figure 3 for control panel mounting location. If there is a Duct Static Pressure transducer currently installed in the MicroTech II control panel, it can be reused and wired to MicroTech III.

Figure 4:



Installing Freezestat

A unit with a hot water or steam coil will need to have a freezestat installed. A non-averaging type freezestat (FS1) is used to protect hydronic coils from subfreezing temperatures. The control is mounted on the entering face of the economizer coil. Upon sensing a temperature above specification, the unit shuts down, opens the hydronic control valves, and sends an alarm indication via the MicroTech III Unit Controller. The freezestat has a field-adjustable set point range of 35°F to 45°F. To change the set point, turn the adjustment screw until the pointer is opposite the desired cutout point. The adjustment screw is accessible at the bottom of the freezestat switch or at the top when the cover is removed.

Installing the Variable Frequency Drive

A unit designed for a Variable Air Volume Application will need a Variable Frequency Drive installed for desired operation. The Variable Frequency Drive can be mounted to the back of the control panel within the control cabinet. Figure 5 and Figure 6 show a Variable Frequency Drive being mounted on the outside of a control panel. These images can be used as a guide for general purposes.

NOTE: If the unit already contains a Variable Frequency Drive, it must be able to be commanded through Modbus in order to properly function with a MicroTech III controller. If the original Variable Frequency Drive is not able to be commanded through Modbus, it will need to be replaced. Daikin only supports installing ABB (ACS320, ACH550, and ACH580), Schneider (ATV212) or Danfoss (FC102) Variable Frequency Drives to properly function with the MicroTech III controller. The installation location of the Variable Frequency Drive is dependent on the technician. They must choose a location with proper ventilation to avoid overheating. An example of an ABB Variable Frequency Drive mounting is shown in Figure 5 and 6.

Figure 5: Actuators for Waterside Economizer



Figure 6: Actuators for Waterside Economizer



Wiring to the MicroTech III

NOTICE

Power must NOT be applied to the MicroTech III or other devices when wiring to the controller.

After the sensors, switches, relays, unit controller and modules are installed, the wiring to the MicroTech III can begin. A full wiring diagram can be found in Appendix B. Use the wire raceways around the edges of the control panel to ensure organization. Terminate wires on the MicroTech III securely and correctly. Terminating an energized wire on the incorrect terminal could open the internal MicroTech III fuse and effect the operation of the controller.

Wiring the Terminal Blocks and Transformers

Terminal Blocks

The MicroTech II control panel should contain two terminal blocks. In order to keep the panel and wiring organized throughout this conversion, it is recommended that the terminal blocks be reconfigured as shown in Figure 7.

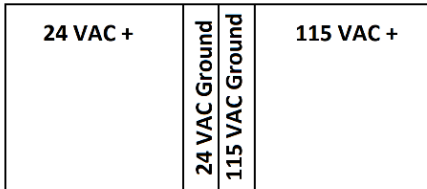
When re-wiring the unit, there will be a need for two power terminal blocks, 24 VAC and 115 VAC, each designated for a specific voltage potential. The individual green terminal blocks can be used as ground/common for each separate voltage potential. Mechanical jumpers must be installed across each of the terminal blocks in order to create an equal voltage potential through the block. The individual green terminal block pieces will be grounded to the unit's case through the DIN rail. Each side of Terminal Block 1 can source its power from the transformers in the unit. For example, the secondary of the 115 VAC to 24 VAC transformer will be wired into the 24 VAC + and Common/Ground side of Terminal Block 1.

Terminal Block 3 will be made up of a set of general terminal blocks used for general wiring of the unit. General wiring includes relay circuitry and high voltage component circuitry.

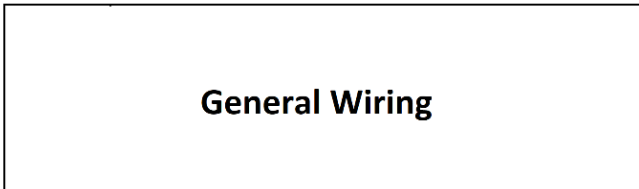
NOTE: Be cautious while setting up and wiring components to each terminal block. Some components only function with certain voltages.

Figure 7: Terminal Block 1 and Terminal Block 3

Terminal Block 1



Terminal Block 3



Transformers

The secondary sides of the T1 and T2 transformers each consist of a positive (+) and a common potential. Wire the secondary of each transformer to the correct locations on Terminal Block 1.

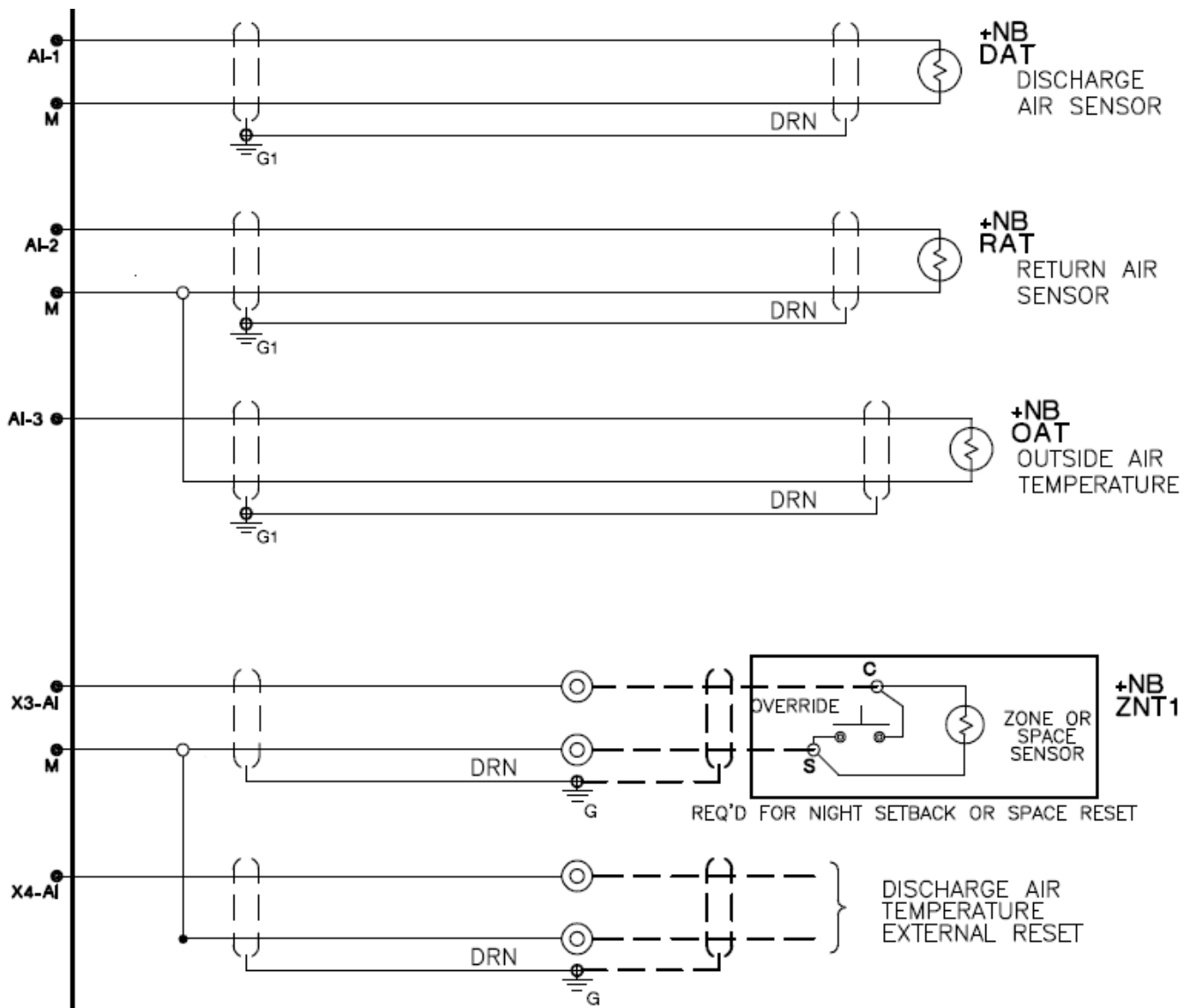
Wiring Power to the MicroTech III MCB

The MicroTech III Main Control Board is powered by 24VAC from the T2 transformer. On the Main Control Board, wire T1-G to 24 VAC + and T1-G0 to 24 VAC Common. Do not apply power to the MicroTech III Main Control Board when completing the rest of the wiring.

Wiring Temperature Sensors

Terminate the wires for the Space/Zone, DAT, RAT and OAT temperature sensors on the MicroTech III Main Control Board as shown in Figure 8. The shield wire can be landed on a ground terminal block found on TB1.

Figure 8:

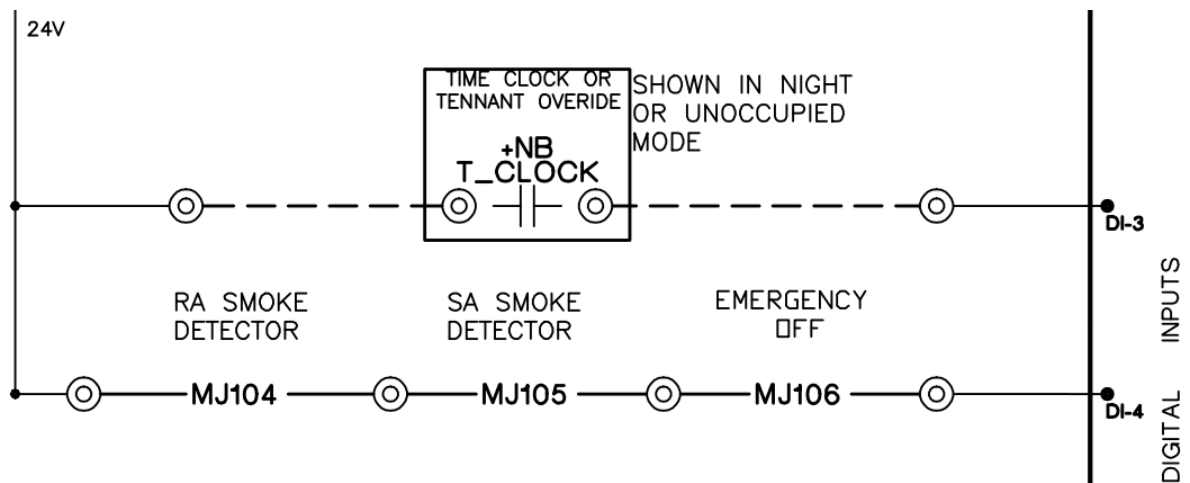


Wiring Smoke/Emergency Off and External Time Clock/Tenant Override

A power source of 24 VAC needs to be supplied to the External Time Clock/Tenant Override circuit. The External Time Clock/Tenant Override is wired in series and terminated on MCB-DI3. When MCB-DI3 sees 24 VAC, the unit will be commanded into Occupied Mode. Wire the External Time Clock/Tenant Override contacts (if applicable) as shown in Figure 9.

A power source of 24 VAC needs to be supplied from TB1 to MCB-DI4 to allow the unit to run without an Emergency Off Fault alarm. The set of NC smoke detector contacts can be wired in series to MCB-DI4 as shown in Figure 9. When there is smoke detected, the NC contacts will open and 24 VAC will be removed from MCB-DI4 and cause an alarm.

Figure 9:



Wiring Fan Operation, VAV Box Signal and Remote Alarm Output Circuits

The MCB-DO10 output can be configured through the MicroTech III keypad for Fan Operation or VAV Box Output. If DO10 is configured for Fan Operation, output is ON when the unit is not OFF and when both the unit is OFF and airflow is detected. It is off when the unit is OFF and airflow is not detected.

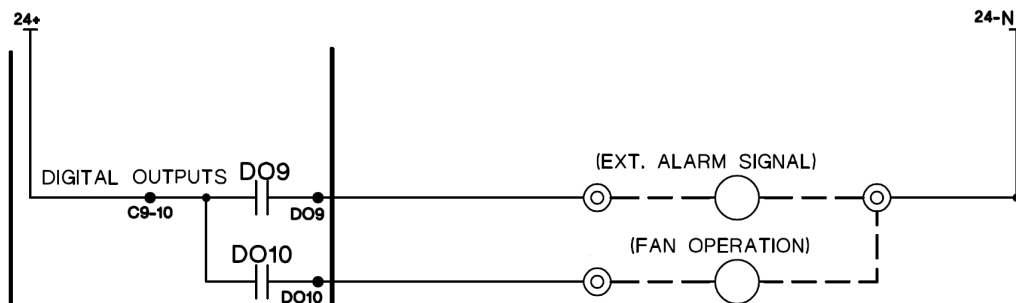
If DO10 is configured for VAV Box output, the VAV Output is turned OFF in the Heating state to indicate that hot air, instead of the normal cool air, is being supplied to the VAV boxes. This output is also OFF when the unit is in the Startup or Recirculation states. When the Unit State is OFF, the VAV Box Output is in the Cool (ON) position unless airflow is detected. When airflow is detected, it switches to the Heat (OFF) position. Refer to Figure 10 for wiring.

The MCB-DO9 output can be used for Remote Alarm Signal output. It indicates the alarm group that contains the highest priority active alarm. This output (MCB-DO9) is ON when no alarms are active. For each individual alarm group (Warnings, Problems, or Faults), MCB-DO9 can be configured for the following actions: ON, Fast Blink, Slow Blink, or OFF. These can be configured via the Alarm Out Config menu in the Commission Unit >> Unit Set-up menu. The default values for the three groups of alarms are:

- Warnings - OFF
- Problems - Slow Blink
- Faults - Fast Blink

24 VAC needs to be supplied to MCB-DO9 and MCB-DO10. See Figure 10 for wiring.

Figure 10:



Wiring Pressure Switches (PC5, PC7 and DHL) and R63 Relay

The PC5 pressure switch wires directly to the MicroTech III as shown in Figure 11. PC5 is a normally closed switch that completes a circuit between DI2 and M. If the switch opens, the circuit breaks and generates a dirty filter alarm.

The PC7 pressure switch is wired in series with the R63 NO set of contacts to MCB-DI1 shown in Figure 11. PC7 is a normally closed open that completes a circuit between DI1 and M when airflow is detected. If the switch opens, the circuit breaks and an Airflow Fault alarm will occur.

The DHL switch is wired in series with the R63 relay shown in Figure 12. The R63 relay coil is energized with 24 VAC from Terminal Block 1 if the DHL switch is closed. Two sets of NO dry contacts from the R63 relay are wired into the DI1 and DI4 circuits.

NOTE: If the unit was selected for constant volume, then no DHL would be installed.

Figure 11:

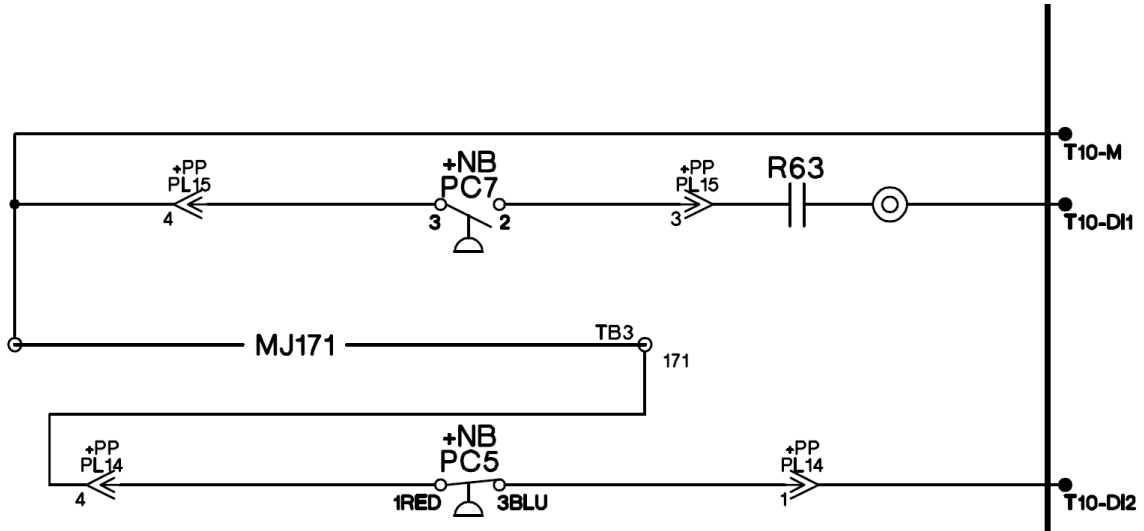
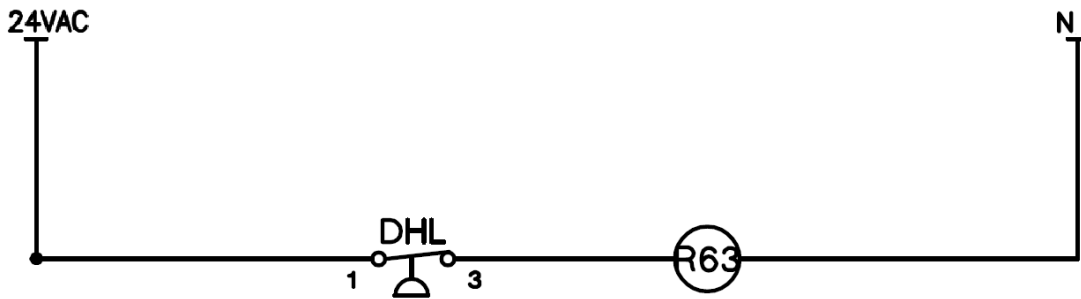


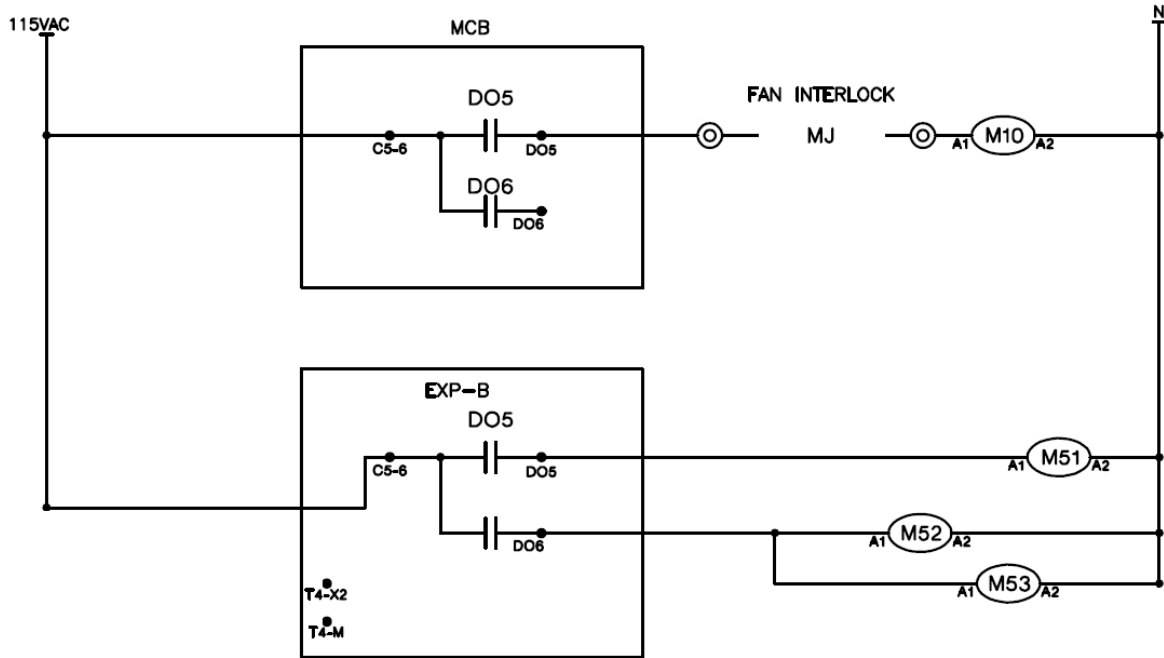
Figure 12:



Supply and Exhaust Fans Start/Stop Wiring – No Variable Frequency Drives

The Maverick II unit may include fixed speed Supply and Exhaust Fans controlled through digital outputs. There are no Variable Frequency Drives installed for the Supply and Exhaust Fans on units with this configuration. Figure 13 shows how the fixed speed fan contactors are wired to the digital outputs on the MicroTech III Main Control Board/Expansion Module B. Verify the 115VAC power wired into the DO5 and DO6 circuitry.

Figure 13:



Wiring Low Pressure Switches 1/2 and Resistors

1. For circuit number one, the Low Pressure Switch 1 (LP1) switch is wired in series with a 1.5kΩ resistor.
2. For circuit number two, the Low Pressure Switch 2 (LP2) switch is wired in series with a 1kΩ resistor.
3. The X2 input on the MicroTech III Main Control Board will read a resistance value input depending on which switch opens. Figure 14 shows the wiring for LP1 and LP2.

Figure 14:



Wiring High Pressure Switches 1/2

1. For circuit number one, MCB-DI5, MCB-DO1 and MCB-DO2 are wired in parallel through the High Pressure Switch 1 (HP1).
2. For circuit number two, MCB-DI6, MCB-DO3 and MCB-DO4 are wired in parallel through the High Pressure Switch 2 (HP2).
3. Figure 15 shows the wiring for HP1 and HP2.

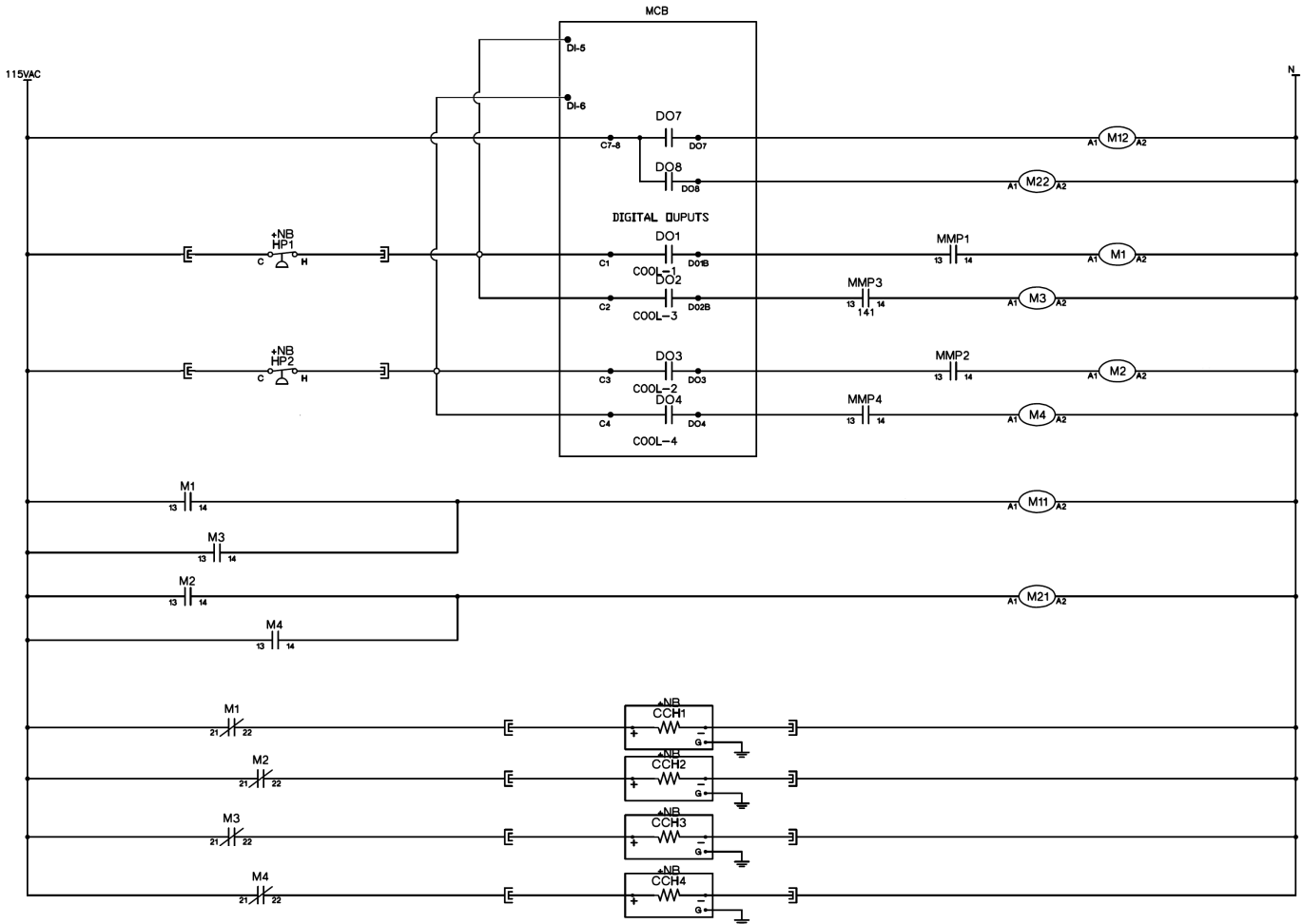
Compressor Enable (On/Off) Wiring

Compressor contactor coil circuits on the MicroTech III are wired through NO contacts of the MMPs if they are available. Compressors 1-4 will be controlled through Digital Outputs 1-4 on the Main Control Board. See Appendix G for more information on wiring locations. In general, each compressor enable circuit includes a high pressure switch in series with the digital output, MMP, and compressor motor contactor coil. When the high pressure switch is closed, the digital output is closed and the NO contact on the MMP is closed, the compressor motor coil will energize through 115 VAC. Refer to Figure 15.

Wiring Condenser Fans

on refrigeration circuit 1 is ON. Voltage is supplied to Condenser Fan 21 (M21) when at least one of the compressor contactors on refrigeration circuit 2 is ON. Condenser Fans 12 (M12) and 22 (M22) are controlled by Digital Outputs MCB-DO7 and MCB-DO8, respectively. Use the Power and General Terminal Blocks as needed. Refer to Figure 15 for wiring.

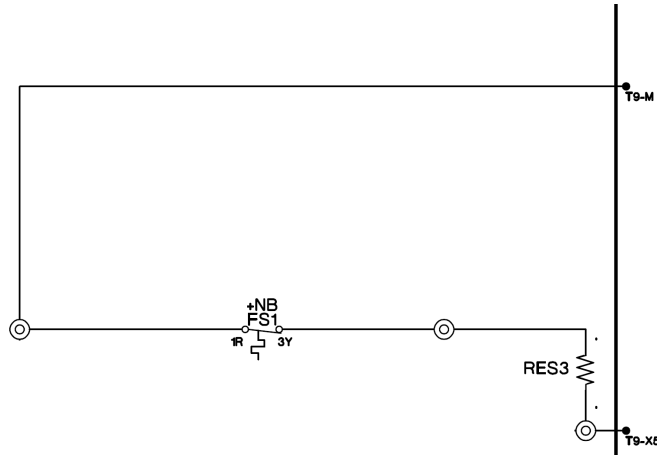
Figure 15:



Wiring Freezestat

The Freezestat (FS1) is a temperature-based switch that is designed to open at low temperatures in order to protect the hot water or steam coil. The Freezestat should be wired in series with 1000 Ohm resistor. When the Freezestat opens the circuit between X5 and M on the MicroTech III Main Control Board, the unit will read an open signal and generate an alarm. See Figure 16 for wiring information if OAER Switch does not exist.

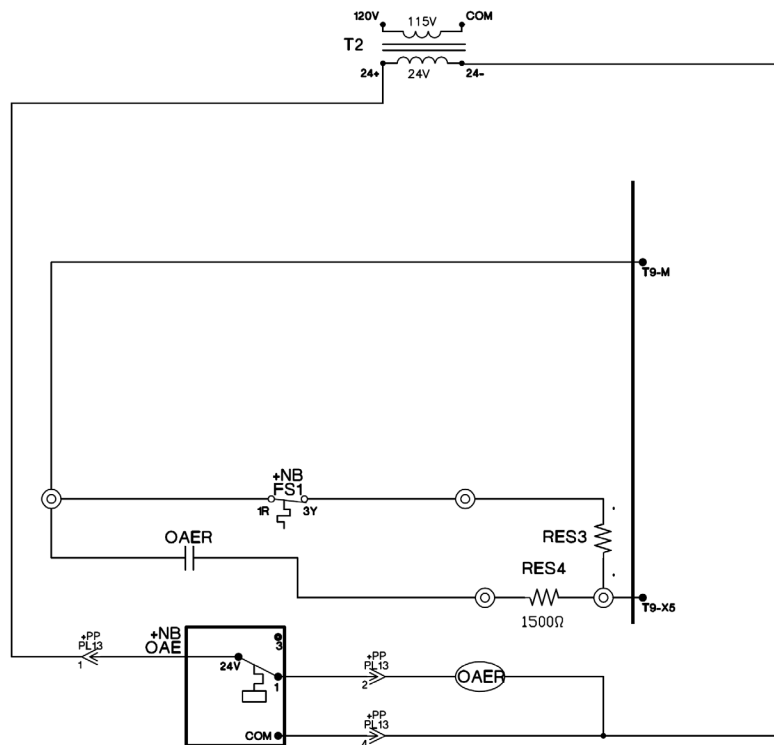
Figure 16:



Wiring OAER Switch and Relay

The Outdoor Enthalpy Switch indicates if outside air is suitable for free cooling. The OAER Switch is a two-position switch that completes a circuit to energize the OAER relay when the outside air enthalpy is suitable for economizing. When the NO contacts of the OAER Relay close, this completes a circuit between MCB-X5 and M. A 1500 Ohm resistor is wired in series with the OAER Relay NO contacts. If a Freezestat exists, the OAER Relay and FS1 circuits are wired in parallel to MCB-X5. See Figure 17.

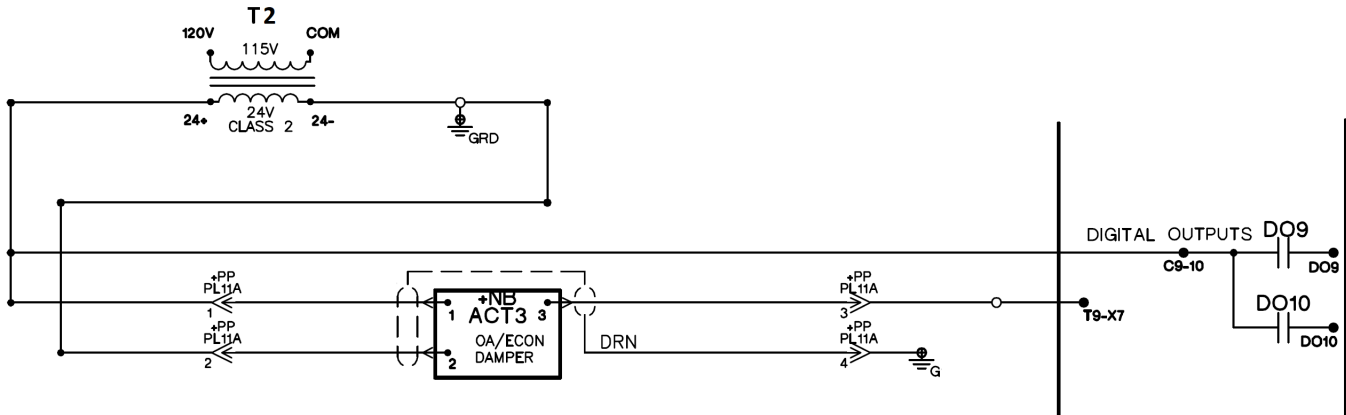
Figure 17:



Wiring OA Damper Actuator

The MicroTech III provides a 0-10 VDC signal to ACT3 from MCB-X7 for control of the OA Damper position. See Figure 18 for wiring.

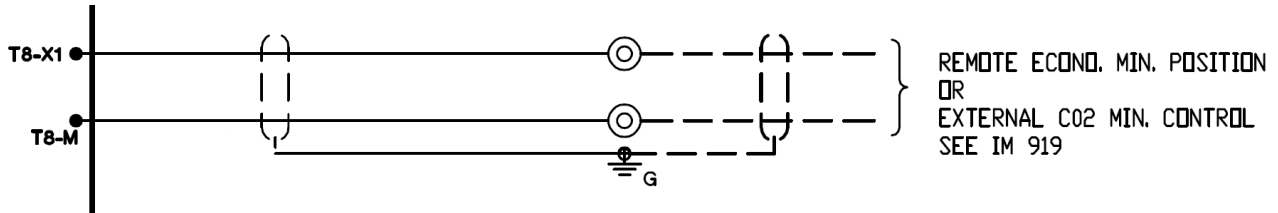
Figure 18:



Wiring OA Damper Reset

On units equipped with a 0-100% modulating economizer, the Minimum Outside Air Damper Position can be reset by an external voltage or current signal. The MicroTech III accepts a 0-10 VDC or 4-20mA signal for this input. If the OA Damper Reset signal to the MicroTech II Unit Controller is not a 0-10VDC or 4-20mA signal, it will need to be replaced with a compatible signal. Wire the analog signal to MCB-X1 and M. Refer to Figure 19 for wiring information.

Figure 19:

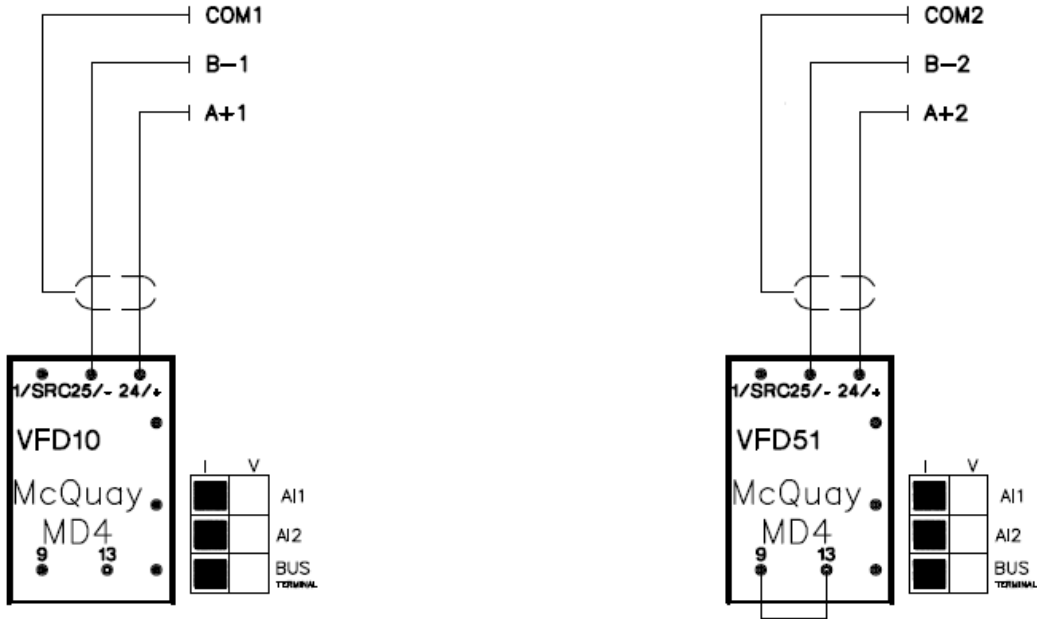


Wiring the Variable Frequency Drive

Variable Frequency Drives are required to control the Supply Fan and Return/Exhaust Fan motors for a Variable Air Volume application. The MicroTech III and Variable Frequency Drive communicate drive status and speed through Modbus. The jumper shown on the RF/EF Variable Frequency Drive is necessary. See an example of the ABB Variable Frequency Drive wiring diagram in Figure 20. Wiring for Schneider Variable Frequency Drive can be found in Appendix F. Refer to manual OM 844 and OM1190 for information on Schneider and ABB Variable Frequency Drives, respectively.

NOTE: Once the Variable Frequency Drive is installed and wired correctly, the parameters for the Variable Frequency Drive must be set. See the “Programming the Variable Frequency Drive” section in this manual for instructions.

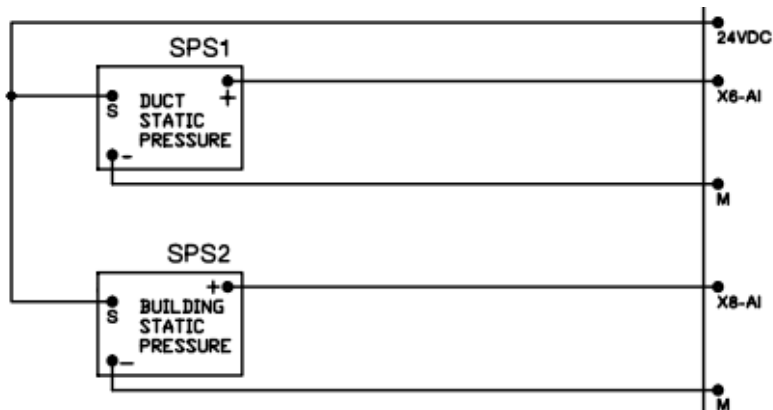
Figure 20:



Wiring the Duct Static Pressure Sensor and Building Static Pressure Sensor

The Duct Static Pressure Transducer (SPS1) and Building Static Pressure Transducer (SPS2) are powered with 24 VDC from the MicroTech III Main Control Board. The 24 VDC power is wired into the S terminal on each of the transducers. The SPS1 signal output (+) is wired to MCB-X6 and the SPS2 signal output (+) is wired to MCB-X8. The SPS1 and SPS2 common terminals (-) are wired to the MCB-M terminal. Refer to Figure 21.

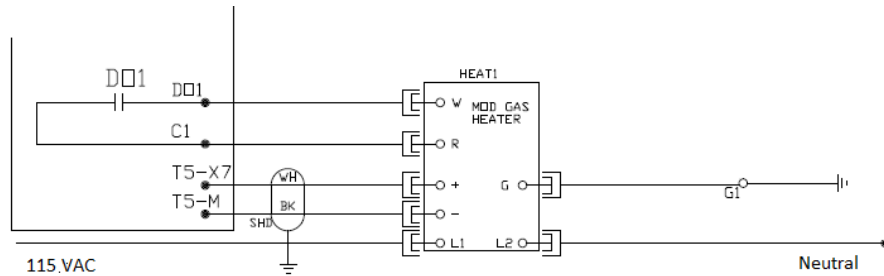
Figure 21:



Wiring for Gas Heat

The MicroTech III uses a direct 2-10 VDC analog signal for modulating gas heat. EXPB-DO1 enables gas heat. If modulating gas heat does not support 2-10 VDC signal, it needs to be replaced. The EXPB-DO1 output from the MicroTech III is wired to W terminal on the Heat 1 Control Board. C1 from the MicroTech III is wired to R terminal on the Heat 1 Control Board. EXPB-X7 is wired to the signal input (+) and EXPB-M is wired to common terminal on the Heat 1 Control Board. The Heat 1 Control Board is powered from TB1 with 115 VAC. Refer to Figure 22.

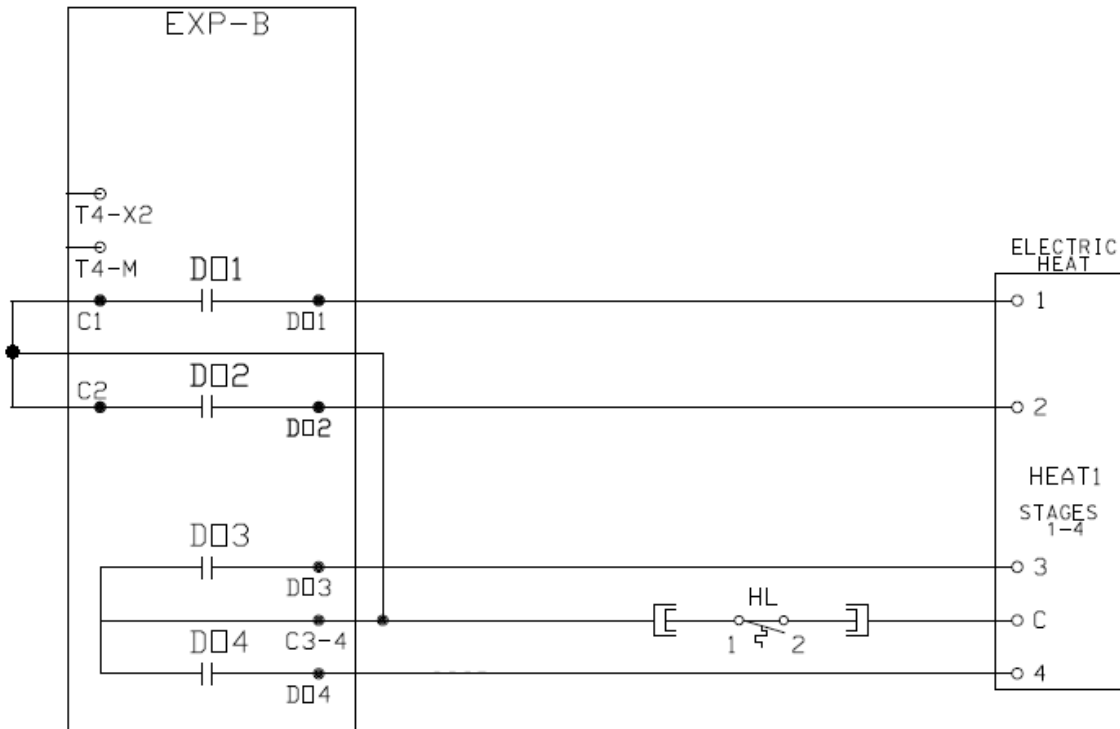
Figure 22:



Wiring for Electric Heat

The MicroTech III Unit Controller supports up to four stages of electric heat. The MicroTech III control panel does not require the relays wired between the digital outputs and Electric Heat Board, as previously found in the MicroTech II control panel. The unit can be wired as shown in Figure 23. The Electric Heat Board is wired to Expansion Board B. Terminals DO1, DO2, DO3 and DO4 from EXPB are wired to terminals 1, 2, 3 and 4 on the Electric Heat Board, respectively. Common terminals from EXPB are wired to common terminal on the Electric Heat Board through the HL switch.

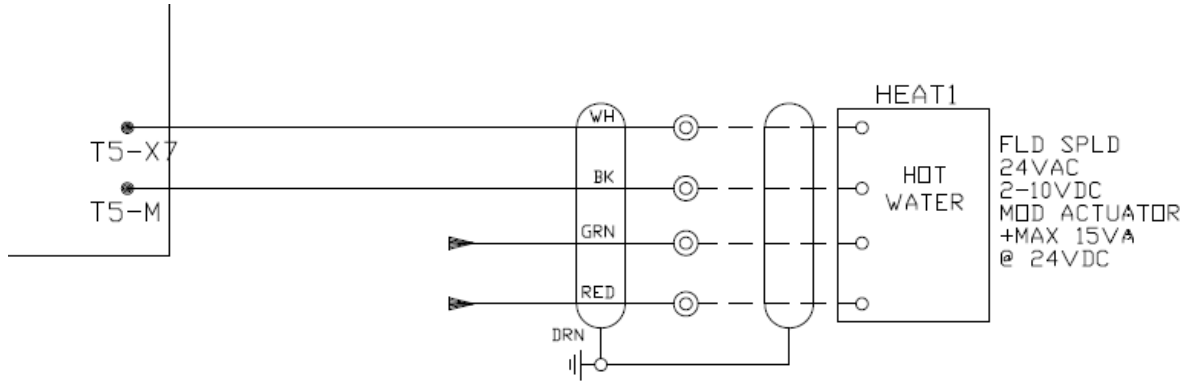
Figure 23:



Wiring for Hot Water Heat

The MicroTech III uses a direct 2-10 VDC analog signal to control the hot water heating valve. If modulating hot water heating valve does not support 2-10 VDC signal, it needs to be replaced. EXPB-X7 is wired to signal input (+) and EXPB-M is wired to common terminal on the Heat 1 Control Board. The Heat 1 Control Board is powered from TB1 with 24 VAC. Refer to Figure 24 for wiring.

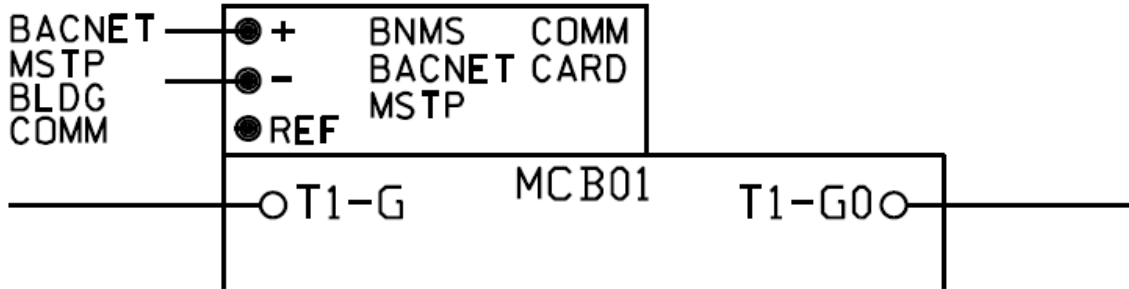
Figure 24:



Wiring of Network Communication Modules

A Network communication module is optional. The MicroTech III controller uses a different style of network communication modules when compared to the MicroTech II controller. The existing MicroTech II communication card needs to be replaced with a compatible MicroTech III communication card. There are three options: BACnet MS/TP, BACnet IP, LON (SCC and DAC). Check polarity before connecting the wires, if applicable. Do not wire the third reference conductor or shield to the network communication module. Refer to Figure 25 for BACnet MS/TP wiring example.

Figure 25:



Programming the MicroTech III and Variable Frequency Drive

Programming the MicroTech III

Once the MicroTech III and all the auxiliary electrical devices are installed and wired, the controller will need to be programmed. There are three tasks when programming the MicroTech III Unit Controller: Verify and Update Software Code, Set Unit Configuration, and Set Parameters.

Verify and Update Software Code

The unit's software code must be updated to the newest code. See the SIL in Appendix C for instructions on how to upload code to the MicroTech III Unit Controller.

Set Unit Configuration

Each MicroTech III has a unique Unit Configuration that must be set according to the unit's features and capabilities. See IM 919-4 for instructions and unit configuration options.

Set Parameters






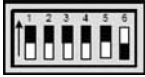
After the software code is updated and the unit configuration is set, the parameters on the MicroTech III will need to be set.

Programming the Variable Frequency Drive

See the charts in Appendix D through E and set the parameters depending on the type of drive.

Appendix A

Figure 26: Dip Switch Settings

Expansion Board A	Switch #5 in the up position (all others down)	
Expansion Board B	Switch #4 in the up position (all others down)	
Expansion Board C	Switch #4 and #5 in the up position (all others down)	
Expansion Board D	Switch #3 in the up position (all others down)	
Expansion Board E	Switch #3 and #5 in the up position (all others down)	
Dipswitch #6	Switch #6 must be in the up position on the last expansion board in the string regardless whether it is A, B, C, D, or E.	

Appendix B

Figure 27:

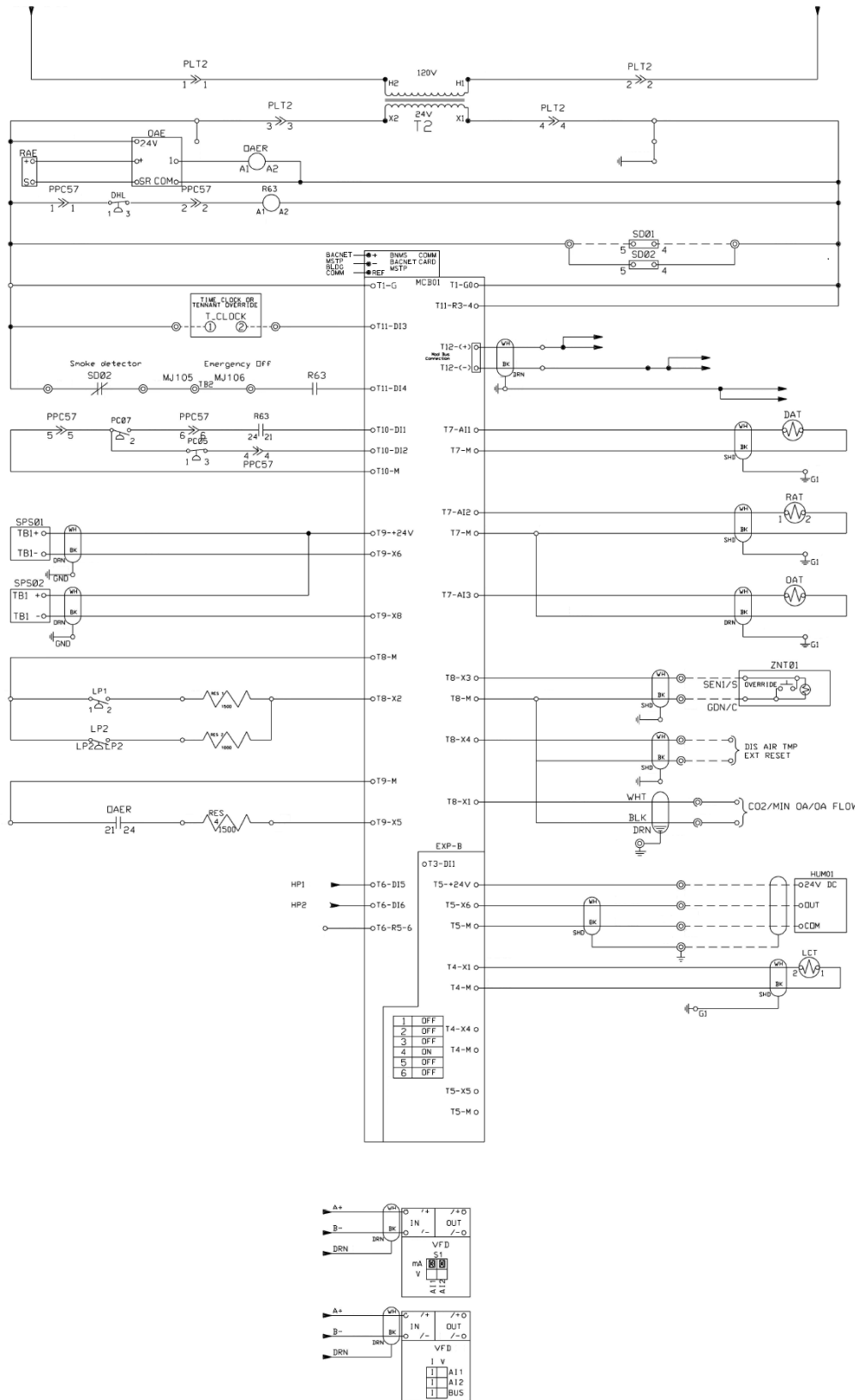
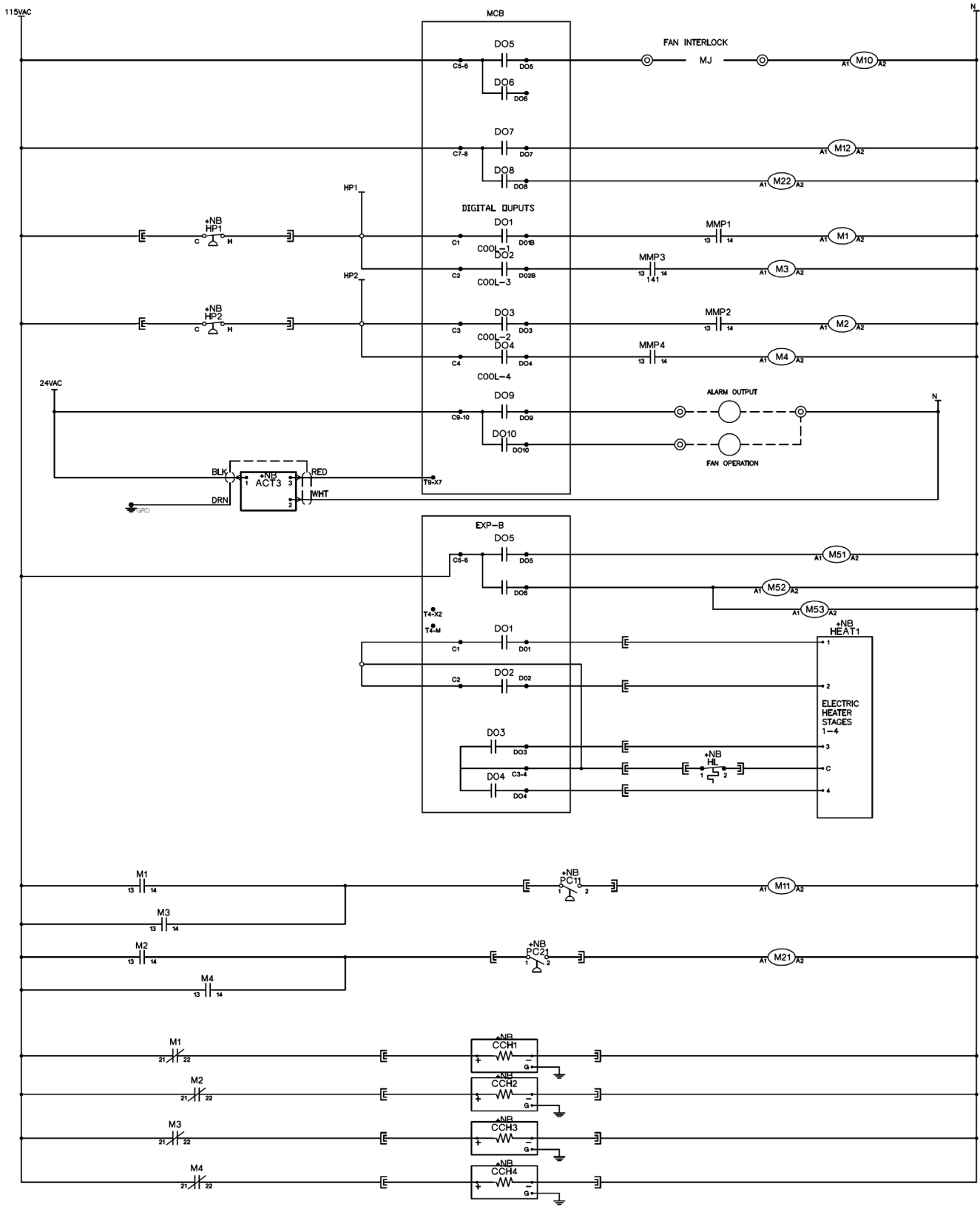


Figure 28:



Appendix C

Figure 29: Code Update SIL



Service Information Letter

Technical Response Center – Applied Air – Plymouth, MN

SIL-ALL-18-001 Date: February 16, 2018
 Originator: Faraz Currimbhoy, Technical Response Center
 Supersedes: SIL-ALL-17-016

Microtech III Controller Software Upgrade Procedures

Use this procedure to upgrade the MicroTech III controller application software and firmware.

Tools Required:

- 3/64" (1 mm) Allen Key
- Flat head screw driver to open control panel door
- SD memory card no larger than 2GB for firmware less than 8.46
- SD memory card no larger than 8GB with a FAT32 file system format for firmware higher than 8.46

Note – If the controller has a BSP version older than 8.40 or the APP version is earlier than 2506017300 contact Daikin Applied Technical Response group for support.

Preparing the SD Card

1. To download the software code files online, navigate to <http://www.daikinapplied.com/search.php>
2. Under the Search Literature section type "250601" under the text search box and click search

3. Scroll down to find the appropriate software version to download and save it to the Desktop.
 - a. 2506017xxx represents Roofpack, Maverick (MPS), and Self-Contained (SWP, SWT) code.
 - b. 2506018xxx represents Rebel (DPS) code

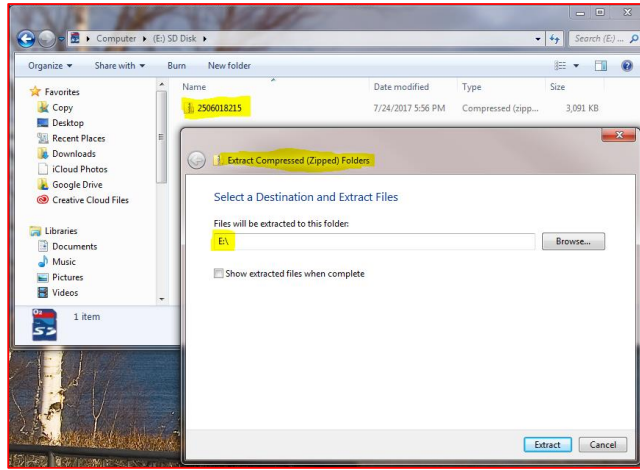
Note: (XXX) changes as the software versions are revised for the respective product lines below.



Figure 29 continued: Code Update SIL

4. Drag the zip file to the freshly formatted SD card and extract it to the root directory of the SD card. See picture below as an example of where the zip file resides on the SD card (E:\) directory.

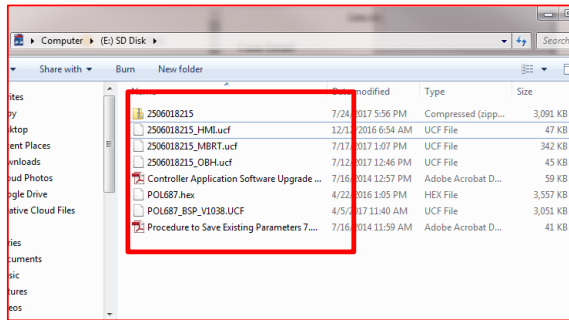
Note: Every computer will have a different drive letter designation for the SD card. Root directory represents the first location that appears when opening the SD card since the Microtech III controller cannot see files from any folders.



5. Once all the files are extracted there will be a total of 8-9 files appearing on the SD card. Total files counts can change with new software revisions. The list below show critical files needed for a software download.

- HMI.ucf • MBRT.ucf • OBH.ucf • POL687.ucf • POL687.hex (omitted after 513 and 214 codes)

Complete list of files including all critical ones shown below



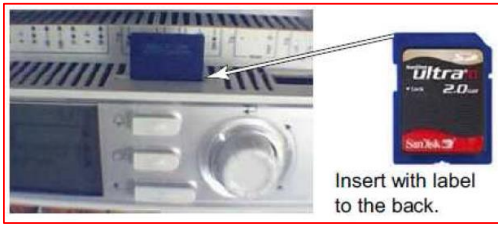
6. This completes preparing the SD card for the download process and should be now taken to the Microtech controller.

Saving Parameters to an SD Card

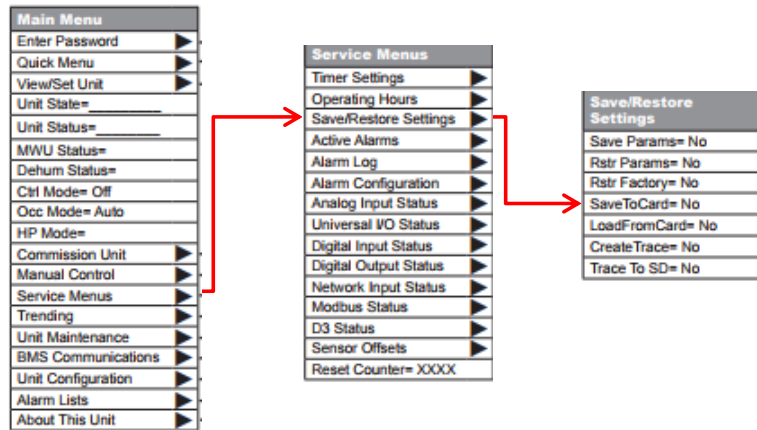
Note: DO NOT save parameters if the controller experienced a glitch in its operation and skip to the "Download Software to the Controller" section.

1. Enter the level 2 password.
2. From the Main Menu, **set the Control Mode to Off.**
3. Insert the SD memory card into the controller's memory card slot. The label on the card should be facing to the rear, toward the controller.

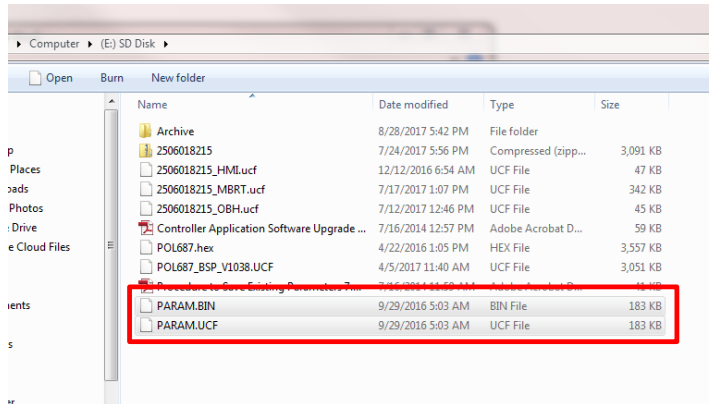
Figure 29 continued: Code Update SIL



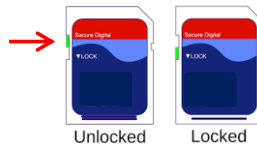
4. Save the existing configuration and parameters to the memory card.
 - a. From the Main Menu select Service Menus then Save/Restore Settings.
 - b. Set SaveToCard option to "Yes" and press the Enter button. Wait till "Yes" reverts to "No"



5. Remove the SD card from the controller and inserting the SD card into the Laptop.
6. Verify 2 parameter files (Param.bin & Param.ucf) saved and their file sizes are larger than 100 KB
7. If the param file sizes are less than 100 KB then repeat step 4



8. If the files are not saving to the existing SD card then check the SD card lock or try a different SD card

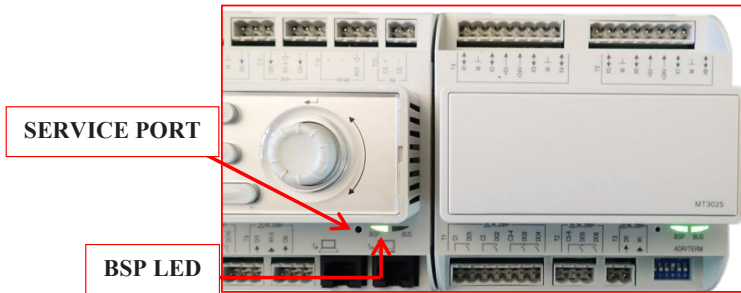


9. This completes saving parameters to the SD card

Figure 29 continued: Code Update SIL

Downloading Software to the Controller

1. Power the controller off and wait 15 seconds
2. Make sure that all communication modules that need to be updated are connected.
3. Insert the end of a 3/64" Allen Key or other similar tool in the service port on the controller and hold the service button depressed. (The service button will "click" once depressed).



4. While holding the service button depressed, apply power to the controller.
5. Continue depressing the service button and observe the BSP LED begins to flash between red and green.
6. Release the service button after the flashing red/green sequence lasts for 3 or more seconds.
7. When the BSP LED's has stopped flashing between red and green check if the BSP LED is either off or amber. If off then repeat the download process again.
 - a. **Note:** If a BMS communication module is connected to the controller, wait for the controller to automatically reset (approximately 30 seconds) before proceeding to the next step.
 - b. **Note: Updating from version 8.xx BSP to 10.xx BSP firmware will require repeating the download process twice. During some software downloads, the controller display may flash blue.**
8. Cycle power to the controller after a solid amber BSP LED is present.
9. From the Main Menu scroll down to About this AHU and observe the APP version shows the same value as the zip file originally downloaded (2506017xxx or 8xxx).

Restoring Parameters to the Controller

1. Make sure the SD memory card is still within the controller's memory card slot.
2. Enter the Level 2 Password.
3. From the Main Menu select Service Menus then Save/Restore Settings.
4. Set the LoadFromCard parameter to Yes, and press the enter button.
 - a. The controller will reset but may perform an additional reset if a communication module is installed.
 - b. Wait 10 seconds after the main menu appears before proceeding

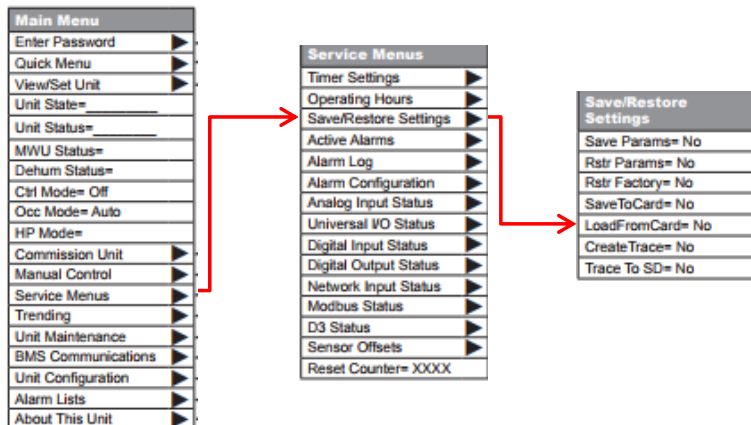
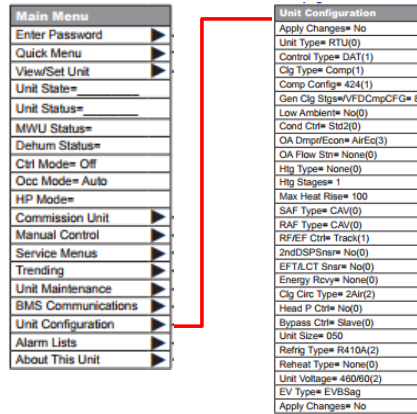


Figure 29 continued: Code Update SIL

5. From the Main Menu scroll down to About this AHU and observe the APP version has no square bracket “...]” at the end. If a square bracket appears then the parameter restore process failed and needs to be repeated.
6. Once the restore process is complete, remove the SD memory card by momentarily pushing it in and releasing to retract.
7. This completes the parameter restore from SD card process

Manually Programming the Unit Configuration

1. If a Save and Restore was not performed then setup the unit per the software configuration sticker installed on the unit door.
 - a. Description of each configurator value is shown under the “Unit Configuration Menu” list below. OM 920 also contains the unit configuration menu.
2. Enter the Level 2 Password.
3. From the Main Menu select Unit Configuration.
4. Scroll through each option within the Unit Configuration menu, changing any parameters not matching the software configuration sticker on the door.



5. Once all the values under the Unit Configuration menu are confirmed, set the Apply Changes parameter to Yes and press the enter button.
6. The controller will perform an automatic reset
7. If the controller did not reset then verify the APP version for an error as mentioned under the “Restore parameters to the controller” section, step 4.
8. This completes the download and programming process.
9. Proceed with setting up individual setting to commission the unit as required for the application.

Figure 29 continued: Code Update SIL

UNIT CONFIGURATION

Configuration Code Position	Description	Values (Default in Bold)	Special Condition	RTU	MPS	DPS	DPS_H	SCU
1	Unit Type	0=Applied Rooftop (RTU) 1=Self-Contained (SCU) 2=Commercial Rooftop (MPS) 3=Rebel Cool Only (DPS/DAH) 4=Rebel Heat Pump (DPS_H)		•	•	•	•	•
2	Control Type	0=Zone Control 1=DAT Control 2=1ZoneVAV		•	•	•	•	•
3	Cooling Type	0 = None 1=Standard Compressorized Clg 2=Chilled Water 3=F&BP 4=Variable Comp Circuit 1 5=Variable Comp Circuit 2 6=VRV 7=NA 8=NA 9=Digital Comp 1 Circuit 10=Digital Comp 2 Circuits		•	•	•	•	•
4	Compressorized Cooling Configuration	0=None 1=Generic Condenser 2=2Cmp/2Circ/3Stg 3=3Cmp/2Circ/4StgorVar (Var used for initial MPS026, 030&035 release) 4=2Cmp/2Circ/2or6StgorVar (6 stg if 7=2,3,4or5) 5=3Cmp/3Circ/3Stg_NoWRV 6=3Cmp/3Circ/3Stg_WRV 7=4Cmp/2Circ/4StgorVar 8=4Cmp/4Circ/4Stg_NoWRV 9=4Cmp/4Circ/4Stg_WRV A=6Cmp/2Circ/6StgorVar B=6Cmp/6Circ/6Stg_NoWRV C=6Cmp/6Circ/6Stg_WRV D=3Cmp/2Circ/5StgorVar E=4Cmp/2Circ/5or8StgorVar (Var used for initial MPS040) (8 stg if 7=2,3,4or5) F=8Cmp/4Circ/8Stg G=8Cmp/8Circ/8Stg H=6Cmp/3Circ/6Stg I=Not Used J=3 Cmp/3Circ/4Stg K=Spare L=1Var/1Circ M=Var/1STD/1Circ		•	•	•	•	•
5	Generic Condenser Stages	1 – 8 Stages (default = 8)		•	• (if 4=4, 5or 6)	• (if 4=4, 5or 6)		
6	Low Ambient	0 = No 1 = Yes	This position currently has no effect on unit operation.					
7	Condenser Control	0=Std Method 1 1=Std Method 2 2=Evap ABB 3=Evap MD2		•	•	•	•	

Figure 29 continued: Code Update SIL

		4=Evap MD3 5=Evap DF 6=Not Used 7=EBM 8=INV 9=INV w/MicroC OA Coil						
8	Damper Type	0=None 1=Single Position 30% 2=Single Position 100% 3=Economizer Airside 4=Economizer Waterside 5=100%OA_D3 6=AirEcon_D3 7=30%_D3 8=EconoAirsideFDD 9=EconFDDDD3	Values 1, 2, 5 & 7 only apply if Position 1 = 0 (RTU), 2 (MPS), 3 or 4 (DPS) Value 4 only applies if Position 1 = 1 (SCU)	•	•	•	•	•
9	OA Flow Station	0=None 1=DF_015-030 (800) 2=DF_036-042 (802) 3=DF_045-075 (047) 4=DF_080-135 (077) 5=Generic Flow Station 6=Generic Flow Station w/CO2		•	•	•	•	•
10	Heating Type	0=None 1=F&BP Control 2=Staged 3=Modulated Gas, 3-1 4=Modulated Gas 20-1 5=Steam or Hot Water 6=SCR Electric 7=MPSLoGas 8=MPSHiGas		•	•	•	•	•
11	Max Heating Stages	1-8 Stages (Default = 1)		•	•	•	•	•
12, 13, 14	Max Heat Rise	Three Digits (Default = 100)		•	•	•	•	•
15	Supply Fan Type	0=Constant Volume 1=VFD/ABB_BD 2=VFD/DF_BD 3=VFD/MD2_BD 4=VFD/MD3_BD 5=VFD/MD6_BD 6=EBMVAV_DD 7=EBMCAV_DD 8=ABBVAV_DD 9=ABBCAV_DD		•	•	•	•	•
16	Return Fan Type	0=CAV 1=RF_EF VFD/ABB 2=RF_EF VFD/DF 3=RF_EF VFD/MD2 4=RF_EF VFD/MD3 5=RF_EF VFD/MD6 6=PrpEx VFD/ABB 7=PrpEx VFD/DF 8=PrpEx VFD/MD2 9=PrpEx VFD/MD3 A=PrpEx VFD/MD6 B=None C=1StageExh D=2StageExh E=3StageExh F=EBMVAV_DD G=EBMCAV_DD H=ABBVAV_DD I=Not Used J=ABBCAV_DD		•	•	•	•	

Figure 29 continued: Code Update SIL

17	Return/Exhaust Fan Capacity Control Method	0=None 1=Tracking 2=Building Pressure 3=Speed 4=OADamper		•	•	•	•	
18	Second Duct Pressure Sensor	0=No 1= Yes		•				•
19	Entering Fan Temp Sensor	0=No 1=Yes		•	•	•	•	
20	Energy Recovery	0=None 1=ConstSpdWhl/NoRH 2=VarSpdWhl/Danfoss 3=VarSpdWhl/MD2 4=VarSpdWhl/MD3 5=VarSpdWhl/ABB 6=ConstSpdWhl/wRH		•	•	•	•	
21	Cooling Circuit Type	0=Individual 1=2,3 or 4 Circ. Water Condenser 2=2 Circ. Air Condenser	Values 0 and 1 are valid only when Position 1 = 1 (SCU)	•	•			•
22	Head Pressure Control	0=No 1=Yes	This position is valid only when Position 1 = 1 (SCU).					•
23	Bypass Valve Control	0=Slave 1=Bypass	This position is valid only when Position 1 = 1 (SCU).					•
24, 25, 26	Unit Size	Three digits (default 050)		•	•	•	•	•
27	Refrigerant Type	0=R22 1=R407C 2=R410A		•	•	•	•	•
28	Reheat Type	0=None 1=StgHG 2=ModHG 3=StdHtRht 4=ModLSC 5=ModHG&LSC		•	•	•	•	
29	Unit Voltage	0=208/60Hz 1=230/60Hz 2=460/60Hz 3=575/60Hz 4=208/50Hz 5=230/50Hz 6=460/50Hz 7=575/50Hz		•	•	•	•	•
30	EVType	0=None 1=EVB_Sag 2=EVB_DF 3=MTIII_Sag 4=MTIII_DF 5=MTIII_Sag_DF 6=MTIII_DF_Sag 7=MTIII_DF_C				•	•	

Figure 29 continued: Code Update SIL

**For questions about the procedure please contact the Technical Response team at:
TechresponseAAH@daikinapplied.com or 844-521-3928**

Appendix D

Table 1: ACS320 and ACH550 Parameters

MD4 Parameters		Unit	RoofPak & Self C	DPS 016-028 MPS 015-050	DPS 016-028 MPS 015-050	RPS / RDT / RCS	RPE / RDE	RoofPak	Maverick II & Rebel
#	Name		SAF, RAF & EAF	SAF	EAF	Condenser Fan	Condenser Fan	Energy Rec Wheel	Energy Rec Wheel
9802	COMM PROT SEL		STD MODBUS	STD MODBUS	STD MODBUS	Not Selected	STD MODBUS	STD MODBUS	STD MODBUS
9901	LANGUAGE		ENGLISH	ENGLISH	ENGLISH	ENGLISH	ENGLISH	ENGLISH	ENGLISH
9902	APPLIC MARCO		HVAC DEFAULT	HVAC DEFAULT	HVAC DEFAULT	HVAC DEFAULT	HVAC DEFAULT	HVAC DEFAULT	HVAC DEFAULT
9905	MOTOR NOM VOLT	V	460	460	460	460	460	460	460
9906	MOTOR NOM CURR	A	35	24	4	2.6	11.2	1.1	0.5
9907	MOTOR NOM FREQ	Hz	60	60	60	60	60	60	60
9908	MOTOR NOM SPEED	rpm	1775	1775	1140	1142	1775	1775	1775
9909	MOTOR NOM POWER	hp	30	20	3	1.5	5	1	0.2
1001	EXT1 COMMANDS		COMM	COMM	COMM	DI1	COMM	COMM	COMM
1102	EXT1/EXT2 SEL		EXT1	EXT1	EXT1	EXT1	EXT1	EXT1	EXT1
1103	REF1 SELECT		COMM	COMM	COMM	AI 1	COMM	COMM	COMM
1104	REF1 MIN	Hz	0	0	0	24	0	0	0
1105	REF1 MAX	Hz	60	60	60	60	60	60	60
1106	REF2 SELECT		KEYPAD	KEYPAD	KEYPAD	KEYPAD	KEYPAD	KEYPAD	KEYPAD
1201	CONST SPEED SEL		NOT SEL	NOT SEL	NOT SEL	DI 3	NOT SEL	NOT SEL	NOT SEL
1601	RUN ENABLE		COMM	COMM	COMM	DI 2	COMM	COMM	COMM
1604	FAULT RESET SEL		COMM	COMM	COMM	KEYPAD	COMM	COMM	COMM
1607	PARAM SAVE		DONE	DONE	DONE	DONE	DONE	DONE	DONE
1608	START ENABLE 1		COMM	COMM	COMM	DI 4	NOT SEL	COMM	COMM
1611	PARAMETER VIEW		LONG VIEW	LONG VIEW	LONG VIEW	LONG VIEW	LONG VIEW	LONG VIEW	LONG VIEW
2101	START FUNCTION		SCAN START	SCAN START	SCAN START	SCAN START	SCAN START	SCAN START	SCAN START
2202	ACCELER TIME 1	s	60	60	60	10	5	60	60
2203	DECELER TIME 1	s	60	60	60	10	30	60	60
2605	U/F RATIO		LINEAR	LINEAR	LINEAR	LINEAR	LINEAR	LINEAR	LINEAR
3003	EXTERNAL FAULT 1		DI 2(INV)	NOT SEL	NOT SEL	NOT SEL	NOT SEL	NOT SEL	NOT SEL
3009	BREAK POINT FREQ	Hz	45	45	45	45	45	45	45
3101	NUMBER TRIALS		5	5	5	5	5	5	5
3103	DELAY TIME	s	3	3	3	3	3	3	3
3104	AR OVERCURRENT		ENABLE	ENABLE	ENABLE	DISABLE	ENABLE	ENABLE	ENABLE
3404	OUTPUT1 DSP FORM		DIRECT	DIRECT	DIRECT	+0.0	+0.0	DIRECT	DIRECT
3405	OUTPUT1 UNIT		%	Hz	Hz	% SP	Hz	Hz	Hz
3415	SIGNAL3 PARAM		AI 1	SPEED	SPEED	AI 1	SPEED	SPEED	SPEED
3418	OUTPUT3 DSP FORM		+0.0	DIRECT	DIRECT	+0.0	DIRECT	DIRECT	DIRECT
3421	OUTPUT3 MAX		44ma	1800 rpm	1800 rpm	10v	1800rpm	1800 rpm	1800 rpm
4201	GAIN		The Daikin software version [will grow over time]						
4202	INTEGRATION TIME	s	279	252	228	106	103	202	204
5302	EFB STATION ID		SAF=1,R/EAF=2	1	2	1	4	3	3
5303	EFB BAUD RATE		192	192	192	96	192	192	192
5304	EFB PARITY		8 NONE 2	8 NONE 2	8 NONE 2	Values Vary	8 NONE 2	8 NONE 2	8 NONE 2
5306	EFB OK MESSAGES		Usually a big number that continues to grow						
5307	EFB CRC ERRORS		0	0	0	0	0	0	0
5308	EFB UART ERRORS		Should be a small number that rarely grows unless a MicroTech III communication problem occurred						
5309	EFB STATUS		ON-LINE	ON-LINE	ON-LINE	ON-LINE	ON-LINE	ON-LINE	ON-LINE
8120	INTERLOCKS		NOT SEL	NOT SEL	NOT SEL	DI 4	NOT SEL	NOT SEL	NOT SEL
1002	EXT2 COMMANDS		NOT SEL	NOT SEL	NOT SEL	DI 1	NOT SEL	NOT SEL	NOT SEL
1301	MINIMUM AI1	%	MicroTech III limits minimum speed to 20 hz			10	MicroTech III limits minimum speed to 20 hz		
1302	MAXIMUM AI1	%	MicroTech III limits maximum speed to 60 hz			50	MicroTech III limits maximum speed to 60 hz		
1303	FILTER AI1	s				0.1			
3502	INPUT SELECTION					AI 1			
4210	SET POINT SEL					AI 1			
1202	CONST SPEED 1	Hz				60			
1401	RELAY OUTPUT 1					FAULT			

Vary depending on motor nameplate voltage and hp
 These values vary depending on the application
 Not important, will be HVAC default values

Table 2: ACH580 Parameters

MD5 Parameters				
	#	Name	Unit	VALUE
GROUP 96 - SYSTEM				
	96.04	MACRO SELECT		HVAC DEFAULT
GROUP 99 - MOTOR DATA				
	99.06	MOTOR NOM CURR	A	Motor Specific
	99.07	MOTOR NOM VOLT	V	Motor Specific
	99.09	MOTOR NOM SPEED	RPM	Motor Specific
	99.10	MOTOR NOM POWER	HP	Motor Specific
GROUP 12 - STANDARD AI				
	12.15	AI1 UNIT SELECTION		MA
	12.19	AI1 SCALED AT AI1 MIN		200
	12.20	AI1 SCALED AT AI1 MAX		1000
	12.25	AI2 UNIT SELECTION		MA
	12.29	AI2 SCALED AT AI2 MIN		200
	12.30	AI2 SCALED AT AI2 MAX		1000
GROUP 20 - START/STOP/DIR				
	20.01	EXT1 COMMANDS		EMBEDDED FIELDBUS
	20.21	DIRECTION		FORWARD
	20.41	START INTERLOCK 1		NOT USED
	20.42	START INTERLOCK 2		NOT USED
GROUP 22 - REFERENCE SELECT				
	22.11	EXT SPEED REF1		EFB REF1
	22.22	CONSTANT SPEED SEL1		ALWAYS OFF
	22.41	SPEED REF SAFE	RPM	0
GROUP 28 - FREQUENCY REFERENCE CHAIN				
	28.11	EXT1 FREQUENCY REF1		EFB REF1
	28.22	CONSTANT FREQ SEL1		ALWAYS OFF
	28.41	FREQUENCY REF SAFE	Hz	0
	28.72	FREQ ACCELERATION TIME 1	S	60
	28.73	FREQ DECELERATION TIME 1	S	60
GROUP 31 - FAULT FUNCTIONS				
	31.01	External Event 1 Source		DI2
	31.14	NUMBER OF TRIALS		5
	31.16	DELAY TIME	S	3
	31.27	STALL FREQUENCY LIMIT	Hz	45
	31.25	AR OVERCURRENT		ENABLE
GROUP 46 - MONITOR / SCALING SETTINGS				
	46.02	FREQUENCY SCALING		1000
GROUP 58 - EMBEDDED FILEDBUS				
	58.01	PROTOCOL ENABLE		MODBUS RTU
	58.03	NODE ADDRESS		1 (SAF) or 2 (RF/EF)
	58.04	BAUD RATE		19.2 KBPS
	58.05	PARITY		8 NONE 2
	58.14	COMMUNICATION LOSS ACTION		SPEED REF SAFE
	58.15	COMMUNICATION LOSS MODE		CW/REF1/REF2
	58.16	COMMUNICATION LOSS TIME	S	25.0 S
	58.33	ADDRESSING MODE		MODE0
	58.06	Communication Control		Enabled
GROUP 71 - EXTERNAL PID1				
	71.32	GAIN		1.00
	71.33	INTEGRATION TIME	S	2155
GROUP 97 - MOTOR CONTROL				
	97.20	U/F RATIO		LINEAR

Appendix E

Figure 30: MPS Parameter Settings

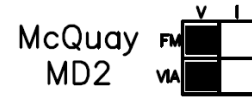
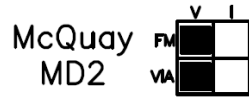
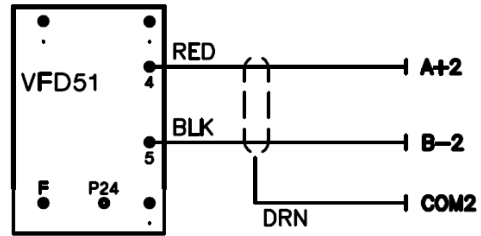
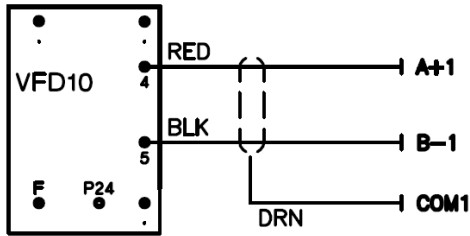
Code	Comm #	Function	Default Value	Daikin Value
<i>RU1</i>	0	Automatic acceleration/deceleration	1	0
<i>RU4</i>	40	Automatic function setting	0	1
<i>CND</i>	3	Command mode selection	0	2
<i>FND</i>	4	Frequency setting mode selection 1	1	4
<i>FN</i>	6	Meter adjustment	145	318
<i>LYP</i>	7	Default setting	0	7
<i>ACC</i>	9	Acceleration time 1	10	60
<i>DEC</i>	10	Deceleration time 1	10	60
<i>FH</i>	11	Maximum frequency	50	60
<i>UL</i>	12	Upper limit frequency	50	60
<i>UL</i>	14	Base frequency 1	50	60
<i>ULV</i>	409	Base frequency voltage 1	—	Motor volts
<i>PE</i>	15	V/F control mode selection 1	1	0
<i>THR</i>	600	Motor electronic-thermal protection level 1	100	Motor FLA
<i>OLN</i>	17	Electric-thermal protection characteristic selection	0	1
<i>F130</i>	130	Output terminal selection 1A (RY-RC)	4	14
<i>F303</i>	303	Retry selection (number of times)	3	5
<i>F605</i>	605	Output phase failure detection mode selection	3	5
<i>F632</i>	632	Thermal memory selection	0	1
<i>F732</i>	732	Panel operation prohibition	0	1
<i>F801</i>	801	Parity	1	1
<i>F802</i>	802 ¹	Inverter number	1	1, 2, 3
<i>F803</i>	803	Communication error trip time	3	10
<i>F807</i>	807	Comm Port	1	See note ²
<i>F821</i>	821	Parity	1	0: Daikin
<i>F829</i>	829	Selection of communication protocol	1	1
<i>F851</i>	851	Inverter action at communication break	4	0
<i>F880</i>	880	Free notes	0	207

1. *F802* parameter setting will vary depending on application. 1= Supply Air Fan, 2= Return Air Fan, 3= Heat Wheel.

2. *F807* = 0 if RJ45 plug used for communications port, 1 if terminals A & B used for Modbus connections

Appendix F

Figure 31: ATV 212 (MD2) Drive Parameters



MCB-ID6	High pressure/ Low pressure 1	LP1: MCB-X2, MCB-M. HP1: MCB-DI5	High and Low Pressure Switches are wired separately on MicroTech III. Remove wire from MCB-ID6, label MCB-X2. Trace the other end of the wire through LP1 Switch, to the R_HP1 NO contact, remove the wire, label as MCB-M. LP1 Switch is wired in line with 1.5 kOhm resistor on MicroTech III and in parallel with LP2. Remove R_HP1 Relay and associated wires. Disconnect HP1 wire from MCB-C12, label MCB-DI5	LP1: MCB-X2, MCB-M. In line with 1.5 kOhm resistor. HP1: MCB-DI5
MCB-ID7	High pressure switch	N/A	Not used on MicroTech III.	N/A
MCB-ID8	High pressure/ Low pressure 2	LP2: MCB-X2, MCB-M. HP2: MCB-DI6	High and Low Pressure Switches are wired separately on MicroTech III. Remove wire from MCB-ID8, label MCB-X2. Trace the other end of the wire through LP2 Switch, to the R_HP2 NO contact, remove the wire, label as MCB-M. LP2 Switch is wired in line with 1 kOhm resistor on MicroTech III and in parallel with LP1. Remove R_HP2 Relay and associated wires. Disconnect HP2 wire from MCB-C13, label MCB-DI6	LP2: MCB-X2, MCB-M. In line with 1 kOhm resistor. HP2: MCB-DI6
MCB-ID9	Duct high limit	DHL-R63, DHL-115V	Keep the Duct High Limit switch. MicroTech III accepts input from R63 Normally Open Contact, coil of R63 wired in line with DHL Switch. Remove wire from MCB-ID9, label DHL-R63. Trace the second wire. Remove from the terminal block. Label DHL-115V.	N/A

Table 5: MCB Binary Outputs

MicroTech II Binary Input	MicroTech II Component	Label	Special Notes	MicroTech III Wiring Location
MCB-NO1	Supply fan start/stop	If keeping: MCB-DO5	With Variable Frequency Drive: MicroTech III uses MODBUS signal to control the Variable Frequency Drive speed. Remove wires, remove R_Variable Frequency Drive10 Relay. Without Variable Frequency Drive: MicroTech III uses MCB-DO5 output to start the Supply Fan. Remove the wire, label.	MCB-DO5
MCB-NO2	Condenser fan #2	MicroTechII-NO2	Remove wire from NO2, label. Condenser Fan 12 will be controlled by MicroTechIII by switching power to R12 relay and closing it's NO contacts	R12 coil contacts will be wired to MCB-DO7 and Neutral of 115VAC
MCB-NO3	Exhaust fan #1	If keeping: EXPB-DO5	With Variable Frequency Drive: MicroTech III uses Modbus signal to control the Variable Frequency Drive speed. Remove wires, remove R_Variable Frequency Drive51 Relay. Without Variable Frequency Drive: MicroTech III uses EXPB-DO5 output to start the Exhaust Fan #1. Remove the wire, label.	EXPB-DO5
MCB-NO4	Heat stage 1	EXPB-DO1	On MicroTech II Carel the Heat Stage 1 is wired through R_HTR1 Relay. Remove the relay. Remove wire from NO4, label.	EXPB-DO1
MCB-NO5	Heat stage 2	EXPB-DO2	On MicroTech II Carel the Heat Stage 1 is wired through R_HTR2 Relay. Remove the relay. Remove wire from NO5, label.	EXPB-DO2
MCB-NO6	Compressor #1, circuit 1	MCB-DO1	M1. Remove the wire, label. On MicroTech III Compressor 1 circuit 1 contactor coil is wired in line with MMP1 Normally open contact.	MCB-DO1 through MMP1 NO.
MCB-NO7	Compressor #2, circuit 2	MCB-DO3	M2. Remove the wire, label. On MicroTech III Compressor 2 circuit 2 contactor coil is wired in line with MMP2 Normally open contact.	MCB-DO3 through MMP2 NO.
MCB-NO8	Alarm	MCB-DO9	Remove the wire, label. Alarm output on MicroTech II is rated for 3A 24 VAC Max, alarm output on MicroTech III is rated for 0.5 A 24-230 VAC.	MCB-DO9
MCB-NO9	VAV/Fan operation output	N/A	Replace with 24VAC Relay/Contactor.	MCB-DO10
MCB-NO10	Exhaust fan #2 and #3	If keeping: EXPB-DO6	With Variable Frequency Drive: MicroTech III uses Modbus signal to control the Variable Frequency Drive speed. Remove wires, remove R_Variable Frequency Drive51 Relay. Without Variable Frequency Drive: MicroTech III uses EXPB-DO6 output to start the Exhaust Fan #2 and #3. Remove the wire, label.	EXPB-DO6
MCB-NO11	Condenser fan #3	MCB-DO6	Remove the wire from NO11, label.	MCB-DO6
MCB-NO12	Compressor #2 and #3, circuit 1	MCB-DO2	M3. Remove the wire, label. On MicroTech III Compressor 2 and 3 circuit 1 contactor coil is wired in line with MMP3 Normally open contact.	MCB-DO2 through MMP2 NO.
MCB-NO13	Compressor #2 and #3, circuit 2	MCB-DO4	M4. Remove the wire, label. On MicroTech III Compressor 2 and 3 circuit 2 contactor coil is wired in line with MMP4 Normally open contact.	MCB-DO4 through MMP4 NO.
MCB-NO14	Condenser fan #4	N/A	Optional - Contact Daikin Applied Controls TRC for more information.	N/A
MCB-NO15	N/A	N/A	Not used on MicroTech II or MicroTech III	N/A
MCB-NO16	Heat stage 3	EXPB-DO3	Remove the wire, label.	EXPB-DO3
MCB-NO17	Heat stage 4	EXPB-DO4	Remove the wire, label.	EXPB-DO4
MCB-NO18	N/A	N/A	Not used on MicroTech II or MicroTech III	N/A

MicroTech II Network Communication Module	MicroTech II Component	Label	Special Notes	MicroTech III Wiring Location
LON (optional)	LON Network Communication Module	COMM-CLA, COMM-CLB	MicroTech III uses different style of network communication modules than MicroTech II. Existing network communication module needs to be replaced. Remove the wires. Label positive side as COMM-CLA, label negative side as COMM-CLB.	COMM-CLA, COMM-CLB
BACnet MS/TP (optional)	BACnet MS/TP Network Communication Module	COMM +, COMM -	MicroTech III uses different style of network communication modules than MicroTech II. Existing network communication module needs to be replaced. Remove the wires. Label positive side as COMM +, label negative side as COMM -.	COMM +, COMM -
BACnet IP (optional)	BACnet IP Network Communication Module	COMM Ethernet TIP	MicroTech III uses different style of network communication modules than MicroTech II. Existing network communication module needs to be replaced. Remove the cable. Label as COMM Ethernet.	COMM Ethernet TIP



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