Service Information Letter

Technical Response Center – Applied Air – Plymouth, MN

SIL-ALL-19-002 (RevC) Date: August 06, 2020
Edited By: Steven Rice, Technical Response Center
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FOR INTERNAL & EXTERNAL USE

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
- Flathead screwdriver to open the control panel door
- SD memory card no larger than 2GB for firmware less than 8.46 or RTU code ending in 7306 and older (Click Here to Purchase)
- SD memory card no larger than 8GB formatted to FAT32 for firmware greater than 8.46 Or DPS code ending in 8200-8207 or RTU code ending in 7307-7509 (Click Here to Purchase)
- SD memory card no larger than 32GB formatted to FAT32 for firmware 10.36 or higher DPS code ending in 8208 and newer or RTU code ending in 7510 and newer (Click Here to Purchase)

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

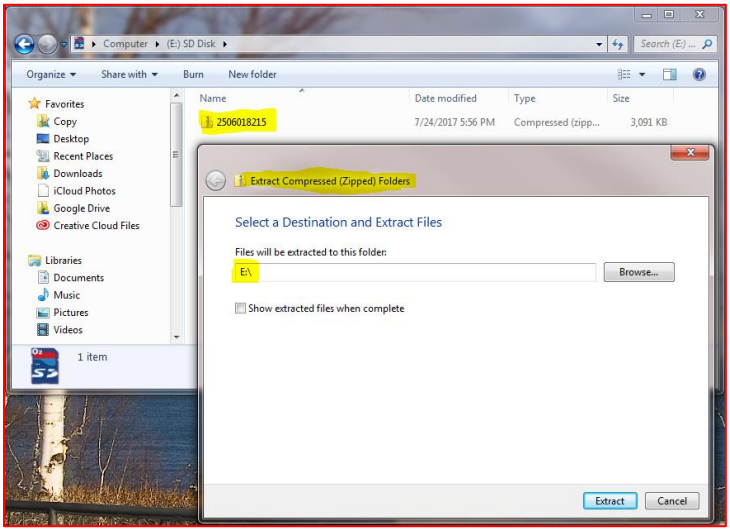
1. Download the software code files online by navigating to https://www.daikinapplied.com/resources/application-software
2. Navigate to Resource Library-Application Software Screen for Rooftop Systems and Self-Contained Units.

3. Select 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
    c. 2506036xxx represents Rebel Applied (DPSA) code

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

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

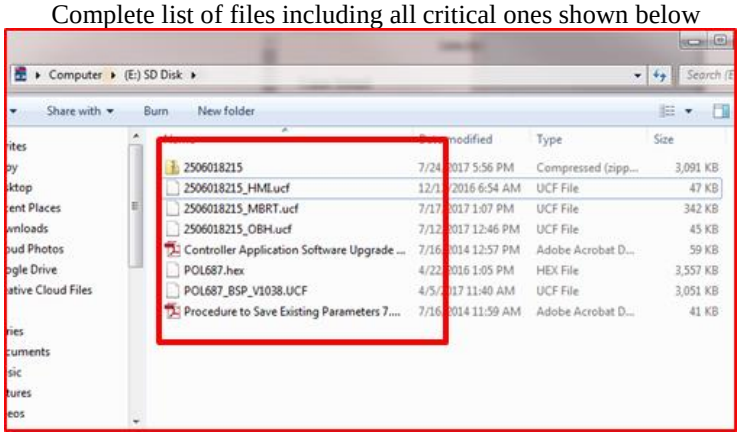
    Note: Every computer will have a different drive letter designation for the SD card. Root directory represents the first location that appears when opening the SD card since the Microtech III controller cannot see files from any folders. Zip file names would change, as mentioned in step 3, once new software versions are released.



5. Once all the files are extracted, there will be a total of 8 - 9 files appearing on the SD card. Total file counts can change with new software revisions. The list below shows 4 - 5 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



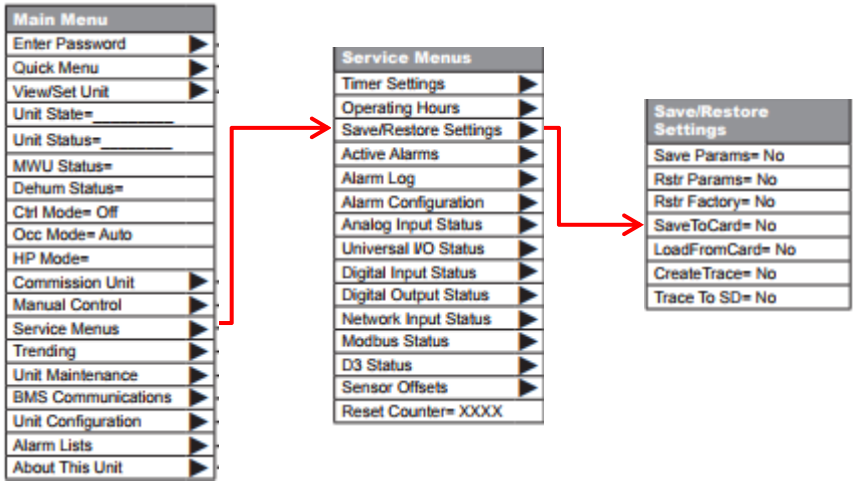
6. This completes preparing the SD card for the download process and should now be taken to the Microtech controller.

Saving Parameters to an SD Card

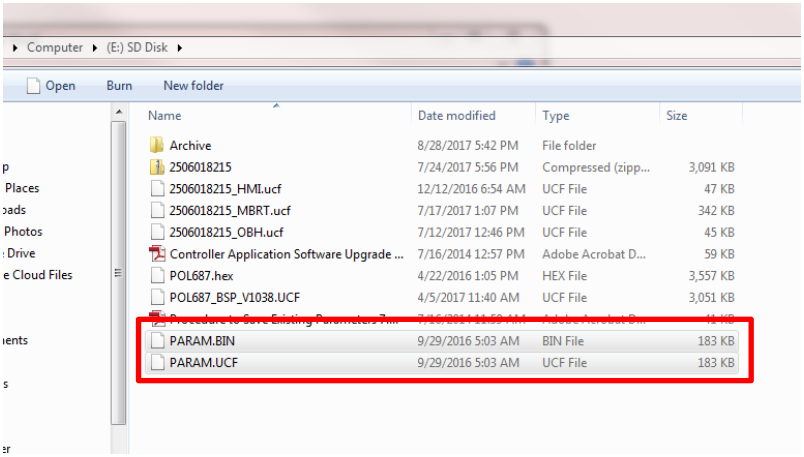
Note: DO NOT save parameters if the controller experienced a glitch in its operation and skip to the "Download Software to the Controller" section of this SIL

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.
   - **a.** The label on the card should be facing to the rear, toward the controller.

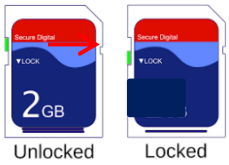
4. Save the existing configuration and parameters to the memory card.
   - **a.** From the Main Menu, select Service Menus then Save/Restore Settings.
   - **b.** Set SaveToCard option to "Yes" and press the Enter button. Wait till "Yes" reverts to "No."



5. Remove the SD card from the controller and insert the SD card into the Laptop.
6. Verify two 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



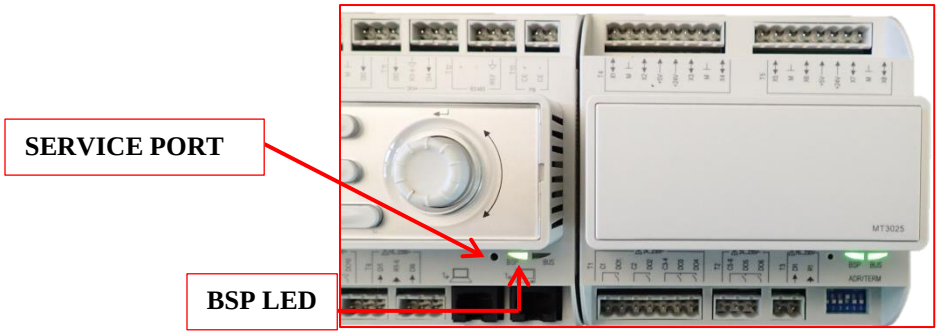
8. If the param files did not save then check the SD card lock or try a different SD card



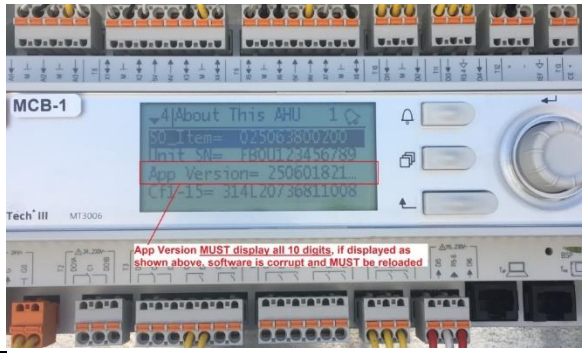
9. This completes saving parameters to the SD card

Downloading Software to the Controller

1. Enter the level 2 password.
2. From the Main Menu, **set the Control Mode to Off**.
3. Power the controller off and wait 90 seconds
4. Make sure that all communication modules that need to be updated are connected.
5. Insert the end of a 3/64" Allen Key or another similar tool in the service port on the controller and hold the service button depressed. (The service button will "click" once depressed).

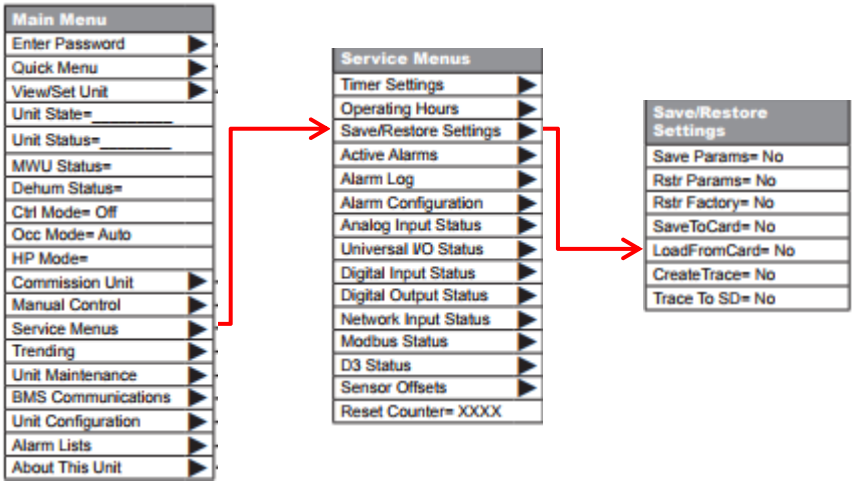


6. While holding the service button depressed, apply power to the controller.
7. Continue depressing the service button and observe the BSP LED begins to flash between red and green.
8. Release the service button after the flashing red/green sequence lasts for three (3) or more cycles.
9. When the BSP LEDs has stopped flashing between red and green, check if the BSP LED is either off or amber.
   a. If off, then repeat the download process again after 90 seconds off time.
   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.
10. Cycle power to the controller after a solid amber BSP LED is present.
11. 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).
12. If APP version appears as shown, you will need to repeat steps above until APP version displays ALL 10 digits completely



Restoring Parameters to the Controller

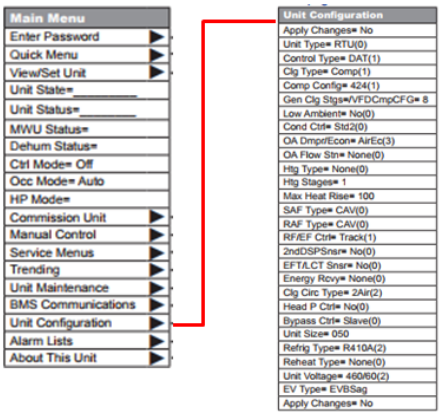
1. Make sure the SD memory card is still within the controller's memory card slot.
2. Enter the Level 2 Password.
3. From the Main Menu, select Service Menus then Save/Restore Settings.
4. Set the LoadFromCard parameter to Yes, and press the enter button.
    a. The controller will reset twice but may perform up to three resets if a communication module is installed.
    Note: On DPS units with ECM fans, the controller will ask to confirm RPM value per the site's air balance report or design selection. Select YES once the proper RPM is entered to have the controller automatically apply changes and reset again.
    b. Wait 10 seconds after the main menu appears before proceeding



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 restores 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 it 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.
    b. 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 manual programming process.
9. Proceed with setting up individual settings to commission the unit as required for the application.

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 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=EconFDDD3	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						
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				●	●	

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