

McQuay VFD replacement using ABB ACH550 Floating point- Cheat Sheet

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We Stock VFDs 1-100Hp - 913-815-3263

This cheat sheet will provide instructions for completing the programming portion of your startup. It assumes you are working on a McQuay RPS system with a Microtech 2 controller with pulse up and pulse down speed control. And that you are replacing a VFD head unit (No Bypass) with an ABB ACH550 VFD.

These instructions assume that your external control wiring consists of:

1. Two dry contact relays with a single common.
 - a. One tells the VFD “go faster” with a pulsed signal
 - b. The other tells the VFD “go slower” with a pulsed signal
2. A 0-5V signal into the Microtech, from the VFD. 0V=0Hz and 5VDC=60Hz VFD speed
3. A Fan proving relay from the VFD that tells the Microtech 2 that the VFD is running.

Step 1 – Landing your Control Wiring

1. Land your “go faster” signal wire to the control board on terminal 17 (Di5) of the control board.
2. Land your “go slower” signal wire to the control board on terminal 18 (Di6) of the control board.
3. Land the common of the above relays to terminal 10 (24V)
4. Place a jumper between 10 and 13 as the “Start” signal for the VFD
5. Place a jumper between terminals 11 (GND) and 12 (DCOM)

6. Land the two 0-5V VFD speed signal wires to terminals 7 (Ao1) and 9 (AGND). Pin 7 is the positive 0-5V signal. Pin 9 is the reference.
 - a. NOTE: DO NOT add a 500 Ohm resistor at the VFD.
 - b. The below settings assume you will continue to use the existing 250 Ohm voltage divider resistor at the Microtech 2 controller, located at TB1 or TB4
7. Land the two “Fan Proving” wires across the VFD dry contact at Terminals 22, and 24.
 - a. Terminals 22 and 24 will be closed when the VFD is running, and open when faulted

Step 2 – Setting your parameters on the VFD keypad

1. 9902 – Change to “Floating point”
2. 9905 – Set your motors nominal voltage (from motor name plate)
3. 9906 – Set your motors nominal current (from motor name plate)
4. 9907 – Set your motors nominal frequency (from motor name plate)
5. 9908 – Set your motors nominal RPM / Speed (from motor name plate)
6. 9909 – Set your motors nominal HP (from motor name plate)
7. 16.01 – Set the Run enable to “Not Selected”
8. 16.08 – Set the Safety start enable 1 to “Not Selected”
9. 2007 – This is your minimum frequency setting. (variable, but usually set to 20hz)
10. 2202 – Set your required acceleration time. (60 seconds is usually fine)
11. 2203 – Set your required deceleration time. (60 seconds is usually fine)
12. 3404 – Set to (Direct) **Note: This sets up your keypad to read HZ on the top line of the keypad**
13. 15.04- Set to “0.0mA” to get the 0-5V to scale correctly.

Step 3 – Setting the clock

Go to the main menu and select “TIME & DATE” and follow the prompts

Step 4 – Backing up parameters to the Keypad

Hit the off Button. Go to the main menu and select “PAR BACKUP” and follow the prompts

Congratulations you have set up your ACH550!

Don't forget to check rotation