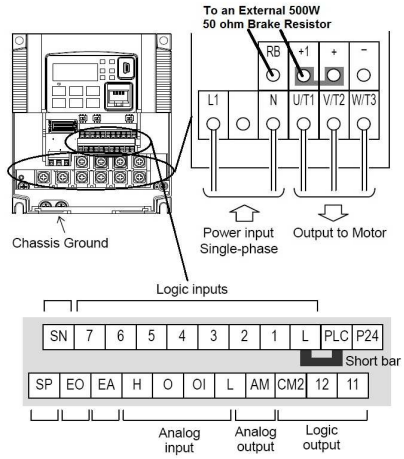
WJ200 **Type:ParameterSet** **ProDriveNext Version:2.3.1.0** **KEY:** ---------- Not applicable unless you have 2 motors

Changes made to default VFD values

File Date: 11-2014 Ver. 1.0 **High Importance** **BOLD/RED** - Important to note.

Hitachi WJ200 manuals and quick reference:
http://www.hitachi-america.us/ice/inverters/products/ac_variable_speed_drives/wj200/
Software is available at no cost from the Hitachi website site:
http://www.hitachi-america.us/ice/inverters/support_service_sales/software_dloads
You must install BOTH the Then ProDriveNext (2.1.1) AND the USB driver software. The USB driver must be installed before connecting a computer to the VFD. With the WJ200 turned on and the USB cable connected to your computer, check in Windows under "Devices and Printers" the your Hitachi shows up in the pop up window. Then run the ProDriveNext software program.
1. The software in NOT intuitive until you have used it for awhile. When you load the software, click on the "File" tap at the top menu, then select "New Solution" each time when connecting to the VFD. Otherwise it tries to load old saved VFD files that are saved on your computer. There may be a way to edit them and download back to the VFD, but haven't been able to do this.
2. In the window tab "Add device" check the lower two check boxes, "Read Items:....", then click the "Online&Read" button below. A pop-up screen should indicate that the VFD is on-line and connected, hit the OK button, and this will start the download of the VFD programmed parameters to the computer program.
3. In the left Toolbox pane you will see the VFD is connected. Click on the Parameter Data, a series of tabs and screen should come up in the right viewing pane. Note the series if Taps for each Parameter Group (F, A B, C, H and P). Each Group Tab is a separate list of programmable functions, so you need to click on that tab to see the parameter group.
4. On any one Group Page, you can modify each parameter by clicking on the "Set Value" cell and entering the new numerical value. The parameter line will be highlighted with any changes you make, you can do one or many changes on multiple lines. Note: the value is not changed in the VFD memory until you either hit the "Program" tab at the top and select "Download (PC->Device), or you can place your cursor over the changed parameter, hit the "right " mouse key, and a pop-up menu will give you the same options. I recommend changing a few parameters, downloading them to the VFD and checking that everything is working. Then doing a few more within a group. Also for tweaking values once you get familiar with the effects.
5. There is a software Auto-tune motor function, used to determine your motor's parameters H031-H034 and then enter in the fields H031-H034. When you run it to optimize your motor parameters, write down the values and then enter your motor values in H031-H034. If control block terminals stop to function after autotune, check A001 and A002 are set to "01". They sometimes change when you run the VFD from the "Device Status" tab functions. like the "Basic inverter operation / IO status monitor" menu button.
6. The WJ200 may need to be programmed before it will work using the terminal commands and external speed control. Some of the software operated motor controls may change some of the VFD programming and it may stop responding to command (they change A001 and A002, so recheck these if the terminal block commands and external pot speed control stop working). Keep a hard copy of the program changes so you make. Be sure that the "Logic input" wiring connections match up with their assigned programmed functions "C001-C007".

Single-phase 200V 0.75 to 2.2kW



F Group						
Data ID	Data Name	Set value		Unit	Default value	Range
F001	Output frequency setting	0		Hz	0	0.00, 0.50 ... 80.00
F002	**Acceleration time (1)**	**5**		**s**	**10**	**0.01 ... 3600.00**
F202	Acceleration time (1),2nd motor	10		s	10	0.01 ... 3600.00
F003	**Deceleration time (1)**	**1**		**s**	**10**	**0.01 ... 3600.00**
F203	Deceleration time (1),2nd motor	10		s	10	0.01 ... 3600.00
F004	Keypad RUN key routing	00:(Forward)			00:(Forward)	
A Group						
Data ID	Data Name	Set value		Unit	Default value	Range
A001	**Frequency source**	**01:(Control terminal)**			**02:(Function F001 setting)**	
~~A201~~	~~Frequency source,2nd motor~~	~~02:(Function F001 setting)~~			~~02:(Function F001 setting)~~	
A002	**Run command source**	**01:(Control terminal)**			**02:(Run key on keypad, or digital operator)**	
~~A202~~	~~Run command source,2nd motor~~	~~02:(Run key on keypad, or digital operator)~~			~~02:(Run key on keypad, or digital operator)~~	
A003	**Base frequency**	**60**		**Hz**	**60**	**30.0 ... 80.0**
~~A203~~	~~Base frequency, 2nd motor~~	~~60~~		~~Hz~~	~~60~~	~~30.0 ... 60.0~~
A004	**Maximum frequency**	**80**		**Hz**	**60**	**60.0 ... 400.0**
~~A204~~	~~Maximum frequency, 2nd motor~~	~~60~~		~~Hz~~	~~60~~	~~60.0 ... 400.0~~
A005	[AT] selection	00:(Select between [O] and [OI] at [AT] (ON=OI, OFF=O			00:(Select between [O] and [OI] at [AT] (ON=OI, OFF=O))	
A011	[O] input active range start frequency	0		Hz	0	0.00 ... 400.00
A012	[O] input active range end frequency	0		Hz	0	0.00 ... 400.00
A013	[O] input active range start voltage	0		%	0	0 ... 100
A014	[O] input active range end voltage	100		%	100	0 ... 100
A015	[O] input start frequency enable	01:(Use 0Hz)			01:(Use 0Hz)	
A016	**Analog input filter**	**31**			**8**	**1 ... 30, 31**
A017	EzSQ selection	00:(disabling)			00:(disabling)	
~~A019~~	~~Multi speed operation selection~~	~~00:(Binary operation (16 speeds selectable with 4 termi~~			~~00:(Binary operation (16 speeds selectable with 4 terminals))~~	
~~A020~~	~~Multi speed freq. 0~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A220~~	~~Multi speed freq. 0, 2nd motor~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 60.00~~
~~A021~~	~~Multi speed freq. 1~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A022~~	~~Multi speed freq. 2~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A023~~	~~Multi speed freq. 3~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A024~~	~~Multi speed freq. 4~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A025~~	~~Multi speed freq. 5~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A026~~	~~Multi speed freq. 6~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A027~~	~~Multi speed freq. 7~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A028~~	~~Multi speed freq. 8~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A029~~	~~Multi speed freq. 9~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A030~~	~~Multi speed freq. 10~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A031~~	~~Multi speed freq. 11~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A032~~	~~Multi speed freq. 12~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A033~~	~~Multi speed freq. 13~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A034~~	~~Multi speed freq. 14~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
~~A035~~	~~Multi speed freq. 15~~	~~0~~		~~Hz~~	~~0~~	~~0.00, 0.50 ... 80.00~~
A038	Jog frequency	6		Hz	6	0.50 ... 9.99
A039	Jog stop mode	04:(Controlled deceleration (valid during run))			04:(Controlled deceleration (valid during run))	
A041	**Torque boost select**	**01:(Automatic torque boost)**			**00:(Manual torque boost)**	
~~A241~~	~~Torque boost select, 2nd motor~~	~~00:(Manual torque boost)~~			~~00:(Manual torque boost)~~	
A042	Manual torque boost value	1		%	1	0.0 ... 20.0
A242	Manual torque boost value, 2nd motor	1		%	1	0.0 ... 20.0
A043	Manual torque boost frequency	5		%	5	0.0 ... 50.0
A243	Manual torque boost frequency,2nd motor	5		%	5	0.0 ... 50.0
A044	**V/f characteristic curve**	**03:(Sensorless vector (SLV))**			**00:(Constant torque)**	
~~A244~~	~~V/f characteristic curve,2nd motor~~	~~00:(Constant torque)~~			~~00:(Constant torque)~~	
A045	V/f gain	100		%	100	20 ... 100
~~A245~~	~~V/f gain, 2nd motor~~	~~100~~		~~%~~	~~100~~	~~20 ... 100~~
A046	Voltage compensation gain for automatic torque boost	100			100	0 ... 255
~~A246~~	~~Voltage compensation gain for automatic torque boost, 2nd moto~~	~~100~~			~~100~~	~~0 ... 255~~
A047	Slip compensation gain for automatic torque boost	100			100	0 ... 255
~~A247~~	~~Slip compensation gain for automatic torque boost, 2nd motor~~	~~100~~			~~100~~	~~0 ... 255~~
A051	DC braking enable	00:(Disable)			00:(Disable)	
A052	DC braking frequency	0.5		Hz	0.5	0.00 ... 60.00
A053	DC braking wait time	0		s	0	0.0 ... 5.0
A054	**DC braking force for deceleration**	**70**		**%**	**50**	**0 ... 100**
A055	DC braking time for deceleration	0.5		s	0.5	0.0 ... 60.0
A056	DC braking / edge or level detection for [DB] input	01:(Level detection)			01:(Level detection)	

comments

Acceleration time of 5 seconds with an S accelartion curves works well

Requires external 50ohm 500W brake resistor for 1-2 second stop times

THIS MUST BE SET TO "01" IF YOU USE AN EXTERNAL POT CONNECTED TO TERMINALS "H, O & L" TO SET YOUR RPM SPEED CONTROL.

THIS MUST BE SET TO "01" IF YOU USE COMMANDS SENT TO THE VFD VIA CONTROL BLOCK TERMINAL "1-7", THIS MAY GET RESET TO "02" WHEN YOU DO THE MOTOR AUTOTUNE AND THE VFD WILL NO LONGER RESPONDS TO THE TERMINALS, SO MAY NEED TO BE RESET BACK TO "02". WHEN SET TO "01" VFD RUN KEY WILL NOT WORK, ONLY STOP KEY.

SET TO MOTOR BASE FREQUENCY ON NAME PLATE, DEFAULT =60

Recommend 80 or 90 Hz for motors with a base frequency of 60 Hz

It is strongly recommend this is set to "31" if you use an external spped control, such as a wired spped pot. When set to "31" the VFD avverages the pot readings and only allows changes above a 0.1Hz threshold. This reduces noise spikes picked up in the wiring going to the pot which cause RPM fluctuations when the pot is set to a fixed RPM setting.

IMPORTANT TO SET TO "03" Sensorless Vector for best performance

DO NOT CHANGE THIS, IT APPLIES TO A ELECTRO-MECHANICAL BRAKE

If set too high will get overvoltage error due to braking regeneration

A057	DC braking force at start	0	%	0	0 ... 100	
A058	DC braking time at start	0	s	0	0.0 ... 60.0	
A059	**Carrier frequency during DC braking**	**8**	**kHz**	**5**	**2.0 ... 15.0**	
A061	**Frequency upper limit**	**80**	**Hz**	**0**	**0.00 ... 80.00**	**Upper limit range is = A004, Maximum Frequency**
~~A261~~	~~Frequency upper limit,2nd motor~~	~~0~~	~~Hz~~	~~0~~	~~0.00 ... 60.00~~	
A062	Frequency lower limit	0	Hz	0	0.00, 0.50 ... 80.00	
~~A262~~	~~Frequency lower limit,2nd motor~~	~~0~~	~~Hz~~	~~0~~	~~0.00, 0.50 ... 60.00~~	
A063	Jump freq. (center) 1	0	Hz	0	0.00 ... 400.00	
A064	Jump freq. width (hysteresis) 1	0.5	Hz	0.5	0.00 ... 10.00	
A065	Jump freq. (center) 2	0	Hz	0	0.00 ... 400.00	
A066	Jump freq. width (hysteresis) 2	0.5	Hz	0.5	0.00 ... 10.00	
A067	Jump freq. (center) 3	0	Hz	0	0.00 ... 400.00	
A068	Jump freq. width (hysteresis) 3	0.5	Hz	0.5	0.00 ... 10.00	
A069	Acceleration hold frequency	0	Hz	0	0.00 ... 400.00	
A070	Acceleration hold time	0	s	0	0.0 ... 60.0	
A071	PID enable	00:(PID Disable)		00:(PID Disable)		
A072	PID proportional gain	1		1	0.00 ... 25.00	
A073	PID integral time constant	1	s	1	0.0 ... 3600.0	
A074	PID derivative time constant	0	s	0	0.00 ... 100.00	
A075	PV scale conversion	1		1	0.01 ... 99.99	
A076	**PV source**	**01:([O] terminal (voltage in))**		**00:([OI] terminal (current in))**		**This is the source of your Hz (rpm) adjustment, i.e. external speed pot**
A077	Reverse PID action	00:(PID input = SP-PV)		00:(PID input = SP-PV)		
A078	PID output limit	0	%	0	0.0 ... 100.0	
A079	PID feed forward selection	00:(Disabled)		00:(Disabled)		
A081	AVR function select	02:(AVR enabled except during deceleration)		02:(AVR enabled except during deceleration)		
A281	AVR function select,2nd motor	02:(AVR enabled except during deceleration)		02:(AVR enabled except during deceleration)		
A082	**AVR voltage select**	**02:(220)**	**V**	**00:(200)**		**SET TO YOUR MOTOR NAMEPLATE VOLTAGE, 220, 230 OR 240V**
~~A282~~	~~AVR voltage select,2nd motor~~	~~00:(200)~~	~~V~~	~~00:(200)~~		
A083	**AVR filter time constant**	**1**	**s**	**0.3**	**0.000 ... 10.000**	**Longer voltage sampling time decreases overvoltage fault error**
A084	AVR deceleration gain	100	%	100	50 ... 200	
A085	Energy-saving operation mode	00:(Normal operation)		00:(Normal operation)		Normal operation No Energy Saving Needed
A086	Energy-saving mode tuning	0	%	50	0.0 ... 100.0	
~~A092~~	~~Acceleration time (2)~~	~~1~~	~~s~~	~~10~~	~~0.01 ... 3600.00~~	
~~A292~~	~~Acceleration time (2),2nd motor~~	~~10~~	~~s~~	~~10~~	~~0.01 ... 3600.00~~	
~~A093~~	~~Deceleration time (2)~~	~~0.1~~	~~s~~	~~10~~	~~0.01 ... 3600.00~~	
~~A293~~	~~Deceleration time (2),2nd motor~~	~~10~~	~~s~~	~~10~~	~~0.01 ... 3600.00~~	
A094	Select method to switch to Acc2/Dec2 profile	00:(2CH input from terminal)		00:(2CH input from terminal)		
~~A294~~	~~Select method to switch to Acc2/Dec2 profile, 2nd motor~~	~~00:(2CH input from terminal)~~		~~00:(2CH input from terminal)~~		
A095	Acc1 to Acc2 frequency transition point	0	Hz	0	0.00 ... 400.00	
~~A295~~	~~Acc1 to Acc2 frequency transition point, 2nd motor~~	~~0~~	~~Hz~~	~~0~~	~~0.00 ... 400.00~~	
A096	Dec1 to Dec2 frequency transition point	0	Hz	0	0.00 ... 400.00	
~~A296~~	~~Dec1 to Dec2 frequency transition point, 2nd motor~~	~~0~~	~~Hz~~	~~0~~	~~0.00 ... 400.00~~	
A097	Acceleration curve selection	01:(S-curve)		01:(S-curve)		Acceleration is default S curve, seems to work well
A098	**Deceleration curve selection**	**00:(linear)**		**01:(S-curve)**		**Deceleration is linear. S curve may be more likely to trip the overvoltage error.**
A101	[OI] input active range start frequency	0	Hz	0	0.00 ... 400.00	
A102	[OI] input active range end frequency	0	Hz	0	0.00 ... 400.00	
A103	[OI] input active range start current	20	%	20	0 ... 100	
A104	[OI] input active range end current	100	%	100	20 ... 100	
A105	[OI] input start frequency select	00:(Use offset (A101 value))		00:(Use offset (A101 value))		
A131	Acceleration curve constant	2		2	1 ... 10	
A132	Deceleration curve constant	2		2	1 ... 10	
A141	A input select for calculate function	02:(Terminal [O] input)		02:(Terminal [O] input)		
A142	**B input select for calculate function**	**02:(Terminal [O] input)**		**03:(Terminal [OI] input)**		**Set to "02" which is speed adjust base on voltage, "03, Terminal OI" is current**
A143	Calculation symbol	00:(ADD (A input + B input))		00:(ADD (A input + B input))		
A145	ADD frequency	0	Hz	0	0.00 ... 400.00	
A146	ADD direction select	00:(Plus (adds A145 value to the output frequency setti		00:(Plus (adds A145 value to the output frequency setting))		
A150	Curvature of EL-S-curve at the start of acceleration	10	%	10	0 ... 50	
A151	Curvature of EL-S-curve at the end of acceleration	10	%	10	0 ... 50	
A152	Curvature of EL-S-curve at the start of deceleration	10	%	10	0 ... 50	
A153	Curvature of EL-S-curve at the end of deceleration	10	%	10	0 ... 50	
A154	Deceleration hold frequency	0	Hz	0	0.00 ... 400.00	
A155	Deceleration hold time	0	s	0	0.0 ... 60.0	
A156	PID sleep function action threshold	0	Hz	0	0.00 ... 400.00	
A157	PID sleep function action delay time	0	s	0	0.0 ... 25.5	
A161	[VR] input active range start frequency	0	Hz	0	0.00 ... 400.00	
A162	[VR] input active range end frequency	0	Hz	0	0.00 ... 400.00	
A163	[VR] input active range start	0	%	0	0 ... 100	
A164	[VR] input active range end	100	%	100	0 ... 100	
A165	[VR] input start frequency select	01:(Use 0Hz)		01:(Use 0Hz)		
B Group						
Data ID	Data Name	Set value	Unit	Default value	Range	
b001	Restart mode on power failure / under-voltage trip	00:(Alarm output after trip, no automatic restart)		00:(Alarm output after trip, no automatic restart)		
b002	Allowable under-voltage power failure time	1	s	1	0.3 ... 25.0	
b003	Retry wait time before motor restart	1	s	1	0.3 ... 100.0	
b004	Instantaneous power failure / under-voltage trip alarm enable	00:(Disable)		00:(Disable)		
b005	Number of restarts on power failure / under-voltage trip events	00:(Restart 16 times)		00:(Restart 16 times)		
b007	Restart frequency threshold	0	Hz	0	0.00 ... 400.00	
b008	Restart mode on over voltage / over current trip	00:(Alarm output after trip, no automatic restart)		00:(Alarm output after trip, no automatic restart)		
b010	Number of retry on over voltage / over current trip	3	times	3	1 ... 3	
b011	Retry wait time on over voltage / over current trip	1	s	1	0.3 ... 100.0	
b012	Level of electronic thermal	100	%	100	20.0 ... 100.0	
b212	Level of electronic thermal, 2nd motor	100	%	100	20.0 ... 100.0	
b013	Electronic thermal characteristic	01:(Constant torque)		01:(Constant torque)		
~~b213~~	~~Electronic thermal characteristic, 2nd motor~~	~~01:(Constant torque)~~		~~01:(Constant torque)~~		
b015	Free setting, electronic thermal frequency (1)	0	Hz	0	0	
b016	Free setting, electronic thermal current (1)	0	%	0	0.0 ... 100.0	
b017	Free setting, electronic thermal frequency (2)	0	Hz	0	0	
b018	Free setting, electronic thermal current (2)	0	%	0	0.0 ... 100.0	
b019	Free setting, electronic thermal frequency (3)	0	Hz	0	0 ... 400	
b020	Free setting, electronic thermal current (3)	0	%	0	0.0 ... 100.0	
b021	Overload restriction operation mode	01:(Enabled for acceleration and constant speed)		01:(Enabled for acceleration and constant speed)		
b221	Overload restriction operation mode, 2nd motor	01:(Enabled for acceleration and constant speed)		01:(Enabled for acceleration and constant speed)		
b022	**Overload restriction level**	**160**	**%**	**150**	**20.0 ... 200.0**	**Set a little higher overload parameter depending on needs.**
~~b222~~	~~Overload restriction level, 2nd motor~~	~~150~~	~~%~~	~~150~~	~~20.0 ... 200.0~~	
b023	Deceleration rate at overload restriction	1	s	1	0.1 ... 3000.0	
~~b223~~	~~Deceleration rate at overload restriction, 2nd motor~~	~~1~~	~~s~~	~~1~~	~~0.1 ... 3000.0~~	
b024	**Overload restriction operation mode 2**	**00:(Disabled)**		**01:(Enabled for acceleration and constant speed)**		
b025	Overload restriction level 2	150	%	150	20.0 ... 200.0	
b026	Deceleration rate 2 at overload restriction	1	s	1	0.1 ... 3000.0	
b027	OC suppression selection	01:(Enabled)		01:(Enabled)		
b028	Current level of active freq.matching	100	%	100	20.0 ... 200.0	
b029	**Deceleration rate of active freq. matching**	**1**	**s**	**0.5**	**0.1 ... 3000.0**	**Slightly longer sampling duration decreases overvoltage tripping of device.**
b030	Start freq. of active freq. matching	00:(freq at previous shutoff)		00:(freq at previous shutoff)		
b031	Software lock mode selection	01:(all parameters except B031 and output frequency F		01:(all parameters except B031 and output frequency F001 are locked when [SFT] terminal is ON)		
b033	**Motor cable length parameter**	**5**		**10**	**5 ... 20**	**Specify motor cable length, in most cases it will be short = 5.**
b034	Run/power ON warning time	0	hr	0	0 ... 65535	
b035	Rotation direction restriction	00:(No restriction)		00:(No restriction)		
b036	Reduced voltage start selection	2		2	0 ... 255	
b037	**Function code display restriction**	**00:(Full display)**		**04:(Basic display)**		**Allows full display access, no need to limit display.**
b038	Initial display selection	001:(d001)		001:(d001)		

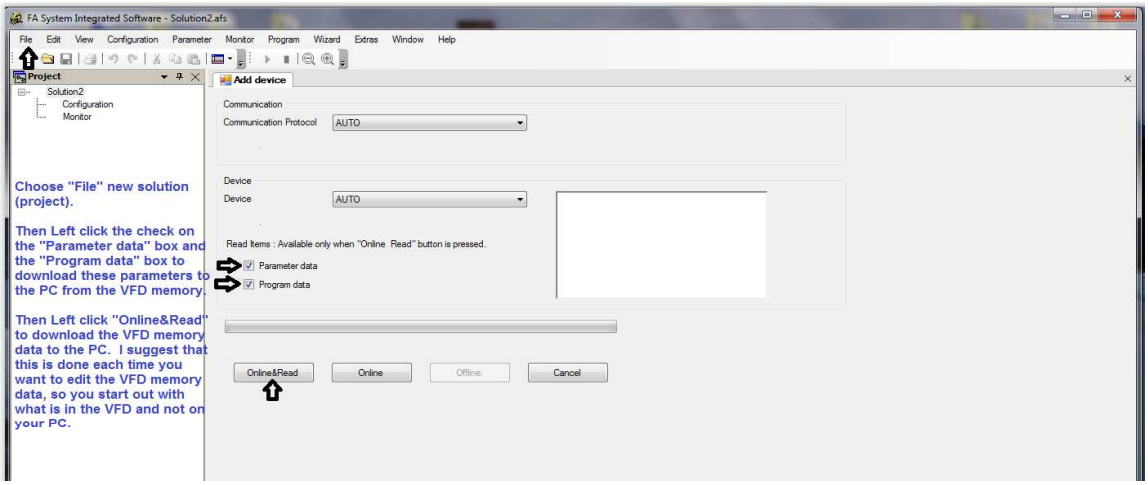
b039	Automatic user parameter registration	00:(Disable)		00:(Disable)		
b040	Torque limit selection	00:(Quadrant-specific setting mode)		00:(Quadrant-specific setting mode)		
b041	Torque limit 1 (fwd/power)	200	%	200	0 ... 200, 255	
b042	Torque limit 2 (rev/regen.)	200	%	200	0 ... 200, 255	
b043	Torque limit 3 (rev/power)	200	%	200	0 ... 200, 255	
b044	Torque limit 4 (fwd/regen.)	200	%	200	0 ... 200, 255	
b045	Torque LAD STOP selection	00:(Disable)		00:(Disable)		
b046	Reverse run protection	01:(Reverse rotation is protected)		01:(Reverse rotation is protected)		
b049	Dual Rating Selection	00:(CT mode)		00:(CT mode)		
b050	**Controlled deceleration on power loss**	**01:(Decelerates to a stop)**		**00:(Trips)**		**Permits some braking to stop, even with power loss**
b051	DC bus voltage trigger level of ctrl. decel.	220	V	220	0.0 ... 1000.0	
b052	Over-voltage threshold of ctrl. decel.	360	V	360	0.0 ... 1000.0	
b053	Deceleration time of ctrl. decel.	1	s	1	0.01 ... 3600.00	
b054	Initial freq. drop of ctrl. decel.	0	Hz	0	0.00 ... 10.00	
b060	Maximum-limit level of window comparators O	100	%	100	0 ... 100	
b061	Minimum-limit level of window comparators O	0	%	0	0 ... 100	
b062	Hysteresis width of window comparators O	0	%	0	0 ... 10	
b063	Maximum-limit level of window comparators OI	100	%	100	0 ... 100	
b064	Minimum-limit level of window comparators OI	0	%	0	0 ... 100	
b065	Hysteresis width of window comparator OI	0	%	0	0 ... 10	
b070	Operation level at O disconnection	255	%	255	0 ... 100, 255	
b071	Operation level at OI disconnection	255	%	255	0 ... 100, 255	
b075	Ambient temperature	40	C	40	-10 ... 50	
b078	Watt-hour clearance	00:(OFF)		00:(OFF)		
b079	Watt-hour display gain	1		1	1 ... 1000	
b082	Start frequency	0.5	Hz	0.5	0.10 ... 9.99	
b083	**Carrier frequency**	**15**	**kHz**	**2**	**2.0 ... 15.0**	**Higher carrier Khz = less motor wine. But can increase motor heat high loads.**
b084	Initialization mode (parameters or trip history)	00:(Initialization disabled)		00:(Initialization disabled)		
b085	Country for initialization	00:(Standard)		00:(Standard)		
b086	Frequency scaling conversion factor	1		1	0.01 ... 99.99	
b087	STOP key enable	00:(Enabled)		00:(Enabled)		
b088	Restart mode after FRS	00:(Restart from 0Hz)		00:(Restart from 0Hz)		
b089	Automatic carrier frequency reduction	01:(Enabled, depending on the output current)		01:(Enabled, depending on the output current)		
b090	**Dynamic braking usage ratio**	**10**	**%**	**0**	**0.0 ... 10.0**	**When using an external 50ohm 500W resistor, duty "ON' cycle is 0-10%**
b091	Stop mode selection	00:(DEC (decelerate to stop))		00:(DEC (decelerate to stop))		
b092	**Cooling fan control**	**02:(Fan is temperature controlled)**		**01:(Fan is ON during run, OFF during stop (5**		**Unless you run your VFD very hard "Hot", then setting this to "01" only turns the fan on based on the heat sink temperature, so much quieter. Turns on only if the temp rises.**
b093	Clear elapsed time of cooling fan	00:(Count)		00:(Count)		
b094	Initialization target data	00:(All parameters)		00:(All parameters)		
b095	Dynamic braking control (BRD) selection	01:(Enable during run only)		01:(Enable during run only)		
b096	**BRD activation level**	**360**	**V**	**360**	**330 ... 380**	**factory default, try 340V if one gets overvoltage VFD error when stopping**
b097	**BRD resistor value**	**50**	**Ohm**	**50**	**50.0 ... 600.0**	**This is set automatically when you add an external brake resistor**
b100	Free-setting V/F freq. (1)	0	Hz	0	0	
b101	Free-setting V/F volt. (1)	0	V	0	0.0 ... 800.0	
b102	Free-setting V/F freq. (2)	0	Hz	0	0	
b103	Free-setting V/F volt. (2)	0	V	0	0.0 ... 800.0	
b104	Free-setting V/F freq. (3)	0	Hz	0	0	
b105	Free-setting V/F volt. (3)	0	V	0	0.0 ... 800.0	
b106	Free-setting V/F freq. (4)	0	Hz	0	0	
b107	Free-setting V/F volt. (4)	0	V	0	0.0 ... 800.0	
b108	Free-setting V/F freq. (5)	0	Hz	0	0	
b109	Free-setting V/F volt. (5)	0	V	0	0.0 ... 800.0	
b110	Free-setting V/F freq. (6)	0	Hz	0	0	
b111	Free-setting V/F volt. (6)	0	V	0	0.0 ... 800.0	
b112	Free-setting V/F freq. (7)	0	Hz	0	0 ... 400	
b113	Free-setting V/F volt. (7)	0	V	0	0.0 ... 800.0	
b120	Brake control enable	00:(Disable)		00:(Disable)		
b121	Brake Wait Time for Release	0	s	0	0.00 ... 5.00	
b122	Brake Wait Time for Acceleration	0	s	0	0.00 ... 5.00	
b123	Brake Wait Time for Stopping	0	s	0	0.00 ... 5.00	
b124	Brake Wait Time for Confirmation	0	s	0	0.00 ... 5.00	
b125	Brake release freq.	0	Hz	0	0.00 ... 400.00	
b126	Brake release current	100	%	100	0.0 ... 200.0	
b127	Braking frequency	0	Hz	0	0.00 ... 400.00	
b130	Deceleration overvoltage suppression enable	01:(Enabled)		00:(Disabled)		
b131	**Decel. overvolt. suppress level**	**390**	**V**	**380**	**330 ... 395**	**Set higher to prevent VFD error from regenative overvoltage when braking**
b132	Decel. overvolt. suppress const.	1	s	1	0.10 ... 30.00	
b133	**Decel. overvolt. suppress proportional gain**	**1**	**times**	**0.2**	**0.00 ... 5.00**	**Set higher to prevent VFD error from regenative overvoltage when braking**
b134	Decel. overvolt. suppress integral time	1	s	1	0.0 ... 150.0	
b145	GS input mode	00:(No trip (Hardware shutoff only))		00:(No trip (Hardware shutoff only))		
b150	Display ex.operator connected	d001		d001		
b160	1st parameter of Dual Monitor	d001		d001		
b161	2nd parameter of Dual Monitor	d002		d002		
b163	Freq. set in monitoring	00:(Freq. set disabled)		00:(Freq. set disabled)		
b164	Automatic return to the initial display	00:(Disable)		00:(Disable)		
b165	Ex. operator com. loss action	02:(Ignore)		02:(Ignore)		
b166	Data read/write selection	00:(R/W enable)		00:(R/W enable)		
b171	Inverter mode selection	00:(Disabling)		00:(Disabling)		
b180	Initialization trigger	00:(Initialization disable)		00:(Initialization disable)		
C Group						
Data ID	Data Name	Set value	Unit	Default value	Range	
C001	Input [1] function	00:(FW:FORWARD Run/Stop)		00:(FW:FORWARD Run/Stop)		"OO" TERMINAL IS FORWARD
C002	Input [2] function	01:(RV:Reverse Run/Stop)		01:(RV:Reverse Run/Stop)		"01" TERMINAL IS REVERSE
C003	**Input [3] function**	**06:(JG:Jogging)**		**02:(CF1:Multi-speed Select,Bit 0 (LSB))**		**"02" TERMINAL IS JOGGING**
C004	**Input [4] function**	**13:(USP:Unattended Start Protection)**		**03:(CF2:Multi-speed Select,Bit 1)**		**"03" TERMINAL IS IF YOU USE A STOP COMMAND, OVERIDES ALL OTHER COMMANDS. CAN USE WITH E-STOP, 2ND NO SWITCH CLOSES AND ACTIVETS THIS**
C005	**Input [5] function**	**09:(2CH:2-stage Acceleration and Deceleration)**		**09:(2CH:2-stage Acceleration and Deceleratı**		**Can use this function to ingage 2 step deceleration, may be needed for high RPM braking to prevent overvoltage error, i.e. longer total deceleration time.**
C006	**Input [6] function**	**11:(FRS: Free-run stop)**		**18:(RS:Reset Inverter)**		**Programing the "11" setting "Free run stop" command should be used for lathes with manual foot brakes. The terminal is activated by a separate NO switch connected to the terminal block which closes when the mechanical foot brake is engaged, and is separate from the NC switch used to stop the motor run signal. This signals the VFD NOT to engage it's electrical braking.**
C007	Input [7] function	05:(CF4:Multi-speed Select,Bit 3 (MSB))		13:(USP:Unattended Start Protection)		
C011	Input [1] active state	00:normally open [NO]		00:normally open [NO]		
C012	Input [2] active state	00:normally open [NO]		00:normally open [NO]		
C013	Input [3] active state	00:normally open [NO]		00:normally open [NO]		
C014	Input [4] active state	00:normally open [NO]		00:normally open [NO]		
C015	Input [5] active state	00:normally open [NO]		00:normally open [NO]		
C016	Input [6] active state	00:normally open [NO]		00:normally open [NO]		
C017	Input [7] active state	00:normally open [NO]		00:normally open [NO]		
C021	Output [11] function	01:(FA1:Frequency Arrival Type 1-Constant Speed)		01:(FA1:Frequency Arrival Type 1-Constant Speed)		
C022	Output [12] function	00:(RUN:Run Signal)		00:(RUN:Run Signal)		
C026	Alarm relay function	05:(AL:Alarm Signal)		05:(AL:Alarm Signal)		
C027	[EO] terminal selection(Pulse/PWM output)	07:(LAD frequency (PWM))		07:(LAD frequency (PWM))		
C028	[AM] terminal selection(Analog voltage output 0...10V)	07:(LAD frequency)		07:(LAD frequency)		
C030	Digital current monitor reference value	100	%	100	20.0 ... 200.0	
C031	Output [11] active state	00:normally open [NO]		00:normally open [NO]		
C032	Output [12] active state	00:normally open [NO]		00:normally open [NO]		
C036	Alarm relay active state	01:normally closed [NC]		01:normally closed [NC]		
C038	Output mode of low current detection	01:(During constant speed only)		01:(During constant speed only)		
C039	Low current detection level	100	%	100	0.0 ... 200.0	

C040	Output mode of overload warning	01:(During constant speed only)		01:(During constant speed only)	
C041	Overload warning level	115	%	115	0.0 ... 200.0
C241	Overload warning level, 2nd motor	115	%	115	0.0 ... 200.0
C042	Frequency arrival setting for acceleration	0	Hz	0	0.00 ... 400.00
C043	Frequency arrival setting for deceleration	0	Hz	0	0.00 ... 400.00
C044	PID deviation level	3	%	3	0.0 ... 100.0
C045	Frequency arrival setting 2 for acceleration	0	Hz	0	0.00 ... 400.00
C046	Frequency arrival setting 2 for deceleration	0	Hz	0	0.00 ... 400.00
C047	Pulse train input/output scale conversion	1		1	0.01 ... 99.99
C052	PID FBV output high limit	100	%	100	0.0 ... 100.0
C053	PID FBV output low limit	0	%	0	0.0 ... 100.0
C054	Over-torque/under-torque selection	00:(Over-torque)		00:(Over-torque)	
C055	Over/under-torque level(Forward powering mode)	100	%	100	0 ... 200
C056	Over/under-torque level(Reverse regen. mode)	100	%	100	0 ... 200
C057	Over/under-torque level(Reverse powering mode)	100	%	100	0 ... 200
C058	Over/under-torque level(Forward regen. mode)	100	%	100	0 ... 200
C059	Signal output mode of Over/under-torque	01:(During constant speed only)		01:(During constant speed only)	
C061	Electronic thermal warning level	90	%	90	0 ... 100
C063	Zero speed detection level	0	Hz	0	0.00 ... 100.00
C064	Heat sink overheat warning	100	C	100	0 ... 110
C071	Communication speed	05:(9600bps)		05:(9600bps)	
C072	Modbus address	1		1	1 ... 247
C074	Communication parity	00:(No parity)		00:(No parity)	
C075	Communication stop bit	01:(1bit)		01:(1bit)	
C076	Communication error select	02:(Disable)		02:(Disable)	
C077	Communication error time-out	0	s	0	0.00 ... 99.99
C078	Communication wait time	0	ms	0	0 ... 1000
C081	O input span calibration	100	%	100	0.0 ... 200.0
C082	OI input span calibration	100	%	100	0.0 ... 200.0
C085	Thermistor input (PTC) span calibration	100	%	100	0.0 ... 200.0
C091	Debug mode enable	00:(Disable)		00:(Disable)	
C096	Communication selection	00:(Modbus-RTU)		00:(Modbus-RTU)	
C098	EzCOM start adr. of master	1		1	1 ... 8
C099	EzCOM end adr. of master	1		1	1 ... 8
C100	EzCOM starting trigger	00:(Input terminal(485RUN))		00:(Input terminal(485RUN))	
C101	Up/Down memory mode selection	00:(Clear last frequency (return to default frequency F0		00:(Clear last frequency (return to default frequency F001))	
C102	Reset selection	00:(Cancel trip state at input signal ON transition, stops		00:(Cancel trip state at input signal ON transition, stops inverter if in Run Mode)	
C103	Restart mode after reset	00:(Start with 0 Hz)		00:(Start with 0 Hz)	
C104	UP/DWN clear mode	00:(0Hz)		00:(0Hz)	
C105	EO gain adjustment	100	%	100	50 ... 200
C106	AM gain adjustment	100	%	100	50 ... 200
C109	AM bias adjustment	0	%	0	0 ... 100
C111	Overload warning level 2	115	%	115	0.0 ... 200.0
C130	Output [11] on delay	0	s	0	0.0 ... 100.0
C131	Output [11] off delay	0	s	0	0.0 ... 100.0
C132	Output [12] on delay	0	s	0	0.0 ... 100.0
C133	Output [12] off delay	0	s	0	0.0 ... 100.0
C140	Relay output on delay	0	s	0	0.0 ... 100.0
C141	Relay output off delay	0	s	0	0.0 ... 100.0
C142	Logic output 1 operand A	00:(RUN:Run Signal)		00:(RUN:Run Signal)	
C143	Logic output 1 operand B	00:(RUN:Run Signal)		00:(RUN:Run Signal)	
C144	Logic output 1 operator	00:([LOG] = A AND B)		00:([LOG] = A AND B)	
C145	Logic output 2 operand A	00:(RUN:Run Signal)		00:(RUN:Run Signal)	
C146	Logic output 2 operand B	00:(RUN:Run Signal)		00:(RUN:Run Signal)	
C147	Logic output 2 operator	00:([LOG] = A AND B)		00:([LOG] = A AND B)	
C148	Logic output 3 operand A	00:(RUN:Run Signal)		00:(RUN:Run Signal)	
C149	Logic output 3 operand B	00:(RUN:Run Signal)		00:(RUN:Run Signal)	
C150	Logic output 3 operator	00:([LOG] = A AND B)		00:([LOG] = A AND B)	
C160	Input [1] response time	1		1	0 ... 200
C161	Input [2] response time	1		1	0 ... 200
C162	Input [3] response time	1		1	0 ... 200
C163	Input [4] response time	1		1	0 ... 200
C164	Input [5] response time	1		1	0 ... 200
C165	Input [6] response time	1		1	0 ... 200
C166	Input [7] response time	1		1	0 ... 200
C169	Multistage speed/position determination time	0		0	0 ... 200
H Group					
Data ID	Data Name	Set value	Unit	Default value	Range
H001	Auto-tuning selection	00:(Disabled)		00:(Disabled)	
H002	Motor constant selection	02:(Auto tuned data)		00:(Hitachi standard motor)	
~~H202~~	~~Motor constant selection, 2nd motor~~	~~02:(Auto tuned data)~~		~~00:(Hitachi standard motor)~~	
H003	Motor capacity	06:(1.5)	kW	06:(1.5)	ASSUMES 2HP
~~H203~~	~~Motor capacity,2nd motor~~	~~06:(1.5)~~	~~kW~~	~~06:(1.5)~~	
H004	Motor poles setting	01:(4P)		01:(4P)	
~~H204~~	~~Motor poles setting,2nd motor~~	~~01:(4P)~~		~~01:(4P)~~	
H005	Motor speed response constant	100	%	100	1 ... 1000
~~H205~~	~~Motor speed response constant, 2nd motor~~	~~100~~	~~%~~	~~100~~	~~1 ... 1000~~
H006	Motor stabilization constant	100		100	0 ... 255
~~H206~~	~~Motor stabilization constant, 2nd motor~~	~~100~~		~~100~~	~~0 ... 255~~
H020	Motor constant R1 (Hitachi motor)	1.477	Ohm	1.477	0.001 ... 65.535
~~H220~~	~~Motor constant R1, 2nd motor (Hitachi motor)~~	~~1.477~~	~~Ohm~~	~~1.477~~	~~0.001 ... 65.535~~
H021	Motor constant R2 (Hitachi motor)	0.801	Ohm	0.801	0.001 ... 65.535
~~H221~~	~~Motor constant R2, 2nd motor (Hitachi motor)~~	~~0.801~~	~~Ohm~~	~~0.801~~	~~0.001 ... 65.535~~
H022	Motor constant L (Hitachi motor)	12.8	mH	12.8	0.01 ... 655.35
~~H222~~	~~Motor constant L, 2nd motor (Hitachi motor)~~	~~12.8~~	~~mH~~	~~12.8~~	~~0.01 ... 655.35~~
H023	Motor constant I0 (Hitachi motor)	4.16	A	4.16	0.01 ... 655.35
~~H223~~	~~Motor constant I0, 2nd motor (Hitachi motor)~~	~~4.16~~	~~A~~	~~4.16~~	~~0.01 ... 655.35~~
H024	Motor constant J (Hitachi motor)	0.017	kgm2	0.017	0.001 ... 9999.000
~~H224~~	~~Motor constant J, 2nd motor (Hitachi motor)~~	~~0.017~~	~~kgm2~~	~~0.017~~	~~0.001 ... 9999.000~~
H030	Motor constant R1 (Auto tuned data)	1.477	Ohm	1.477	0.001 ... 65.535
~~H230~~	~~Motor constant R1, 2nd motor (Auto tuned data)~~	~~1.477~~	~~Ohm~~	~~1.477~~	~~0.001 ... 65.535~~
H031	Motor constant R2 (Auto tuned data)	0.801	Ohm	0.801	0.001 ... 65.535
~~H231~~	~~Motor constant R2, 2nd motor (Auto tuned data)~~	~~0.801~~	~~Ohm~~	~~0.801~~	~~0.001 ... 65.535~~
H032	Motor constant L (Auto tuned data)	12.8	mH	12.8	0.01 ... 655.35
~~H232~~	~~Motor constant L, 2nd motor (Auto tuned data)~~	~~12.8~~	~~mH~~	~~12.8~~	~~0.01 ... 655.35~~
H033	Motor constant I0 (Auto tuned data)	4.16	A	4.16	0.01 ... 655.35
~~H233~~	~~Motor constant I0, 2nd motor (Auto tuned data)~~	~~4.16~~	~~A~~	~~4.16~~	~~0.01 ... 655.35~~
H034	Motor constant J (Auto tuned data)	0.017	kgm2	0.017	0.001 ... 9999.000
~~H234~~	~~Motor constant J, 2nd motor (Auto tuned data)~~	~~0.017~~	~~kgm2~~	~~0.017~~	~~0.001 ... 9999.000~~
H050	Slip compensation P gain for V/f control with FB	0.2	times	0.2	0.00 ... 10.00
H051	Slip compensation I gain for V/f control with FB	2	s	2	0 ... 1000

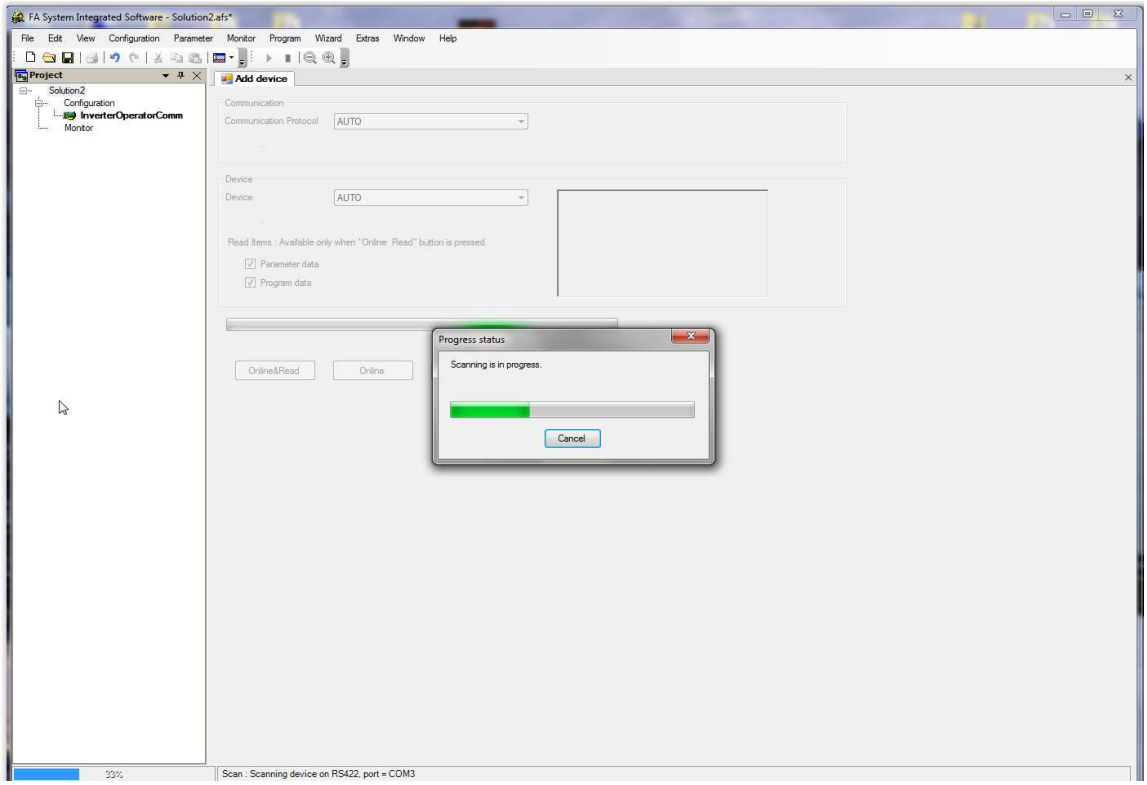
Use the autotune feature to determine your motor's parameters H031-H034 and then enter in the fields below. I run the autotune feature through the software. Write down the values and then enter your motor values in H031-H034. If control block terminals stop to function after autotune, check A001 and A002 is set to "01"

Load Hitachi VFD Software AND USB Driver first before connecting the VFD. Turn on VFD and connect to PC, verify USB Driver is working as shown.

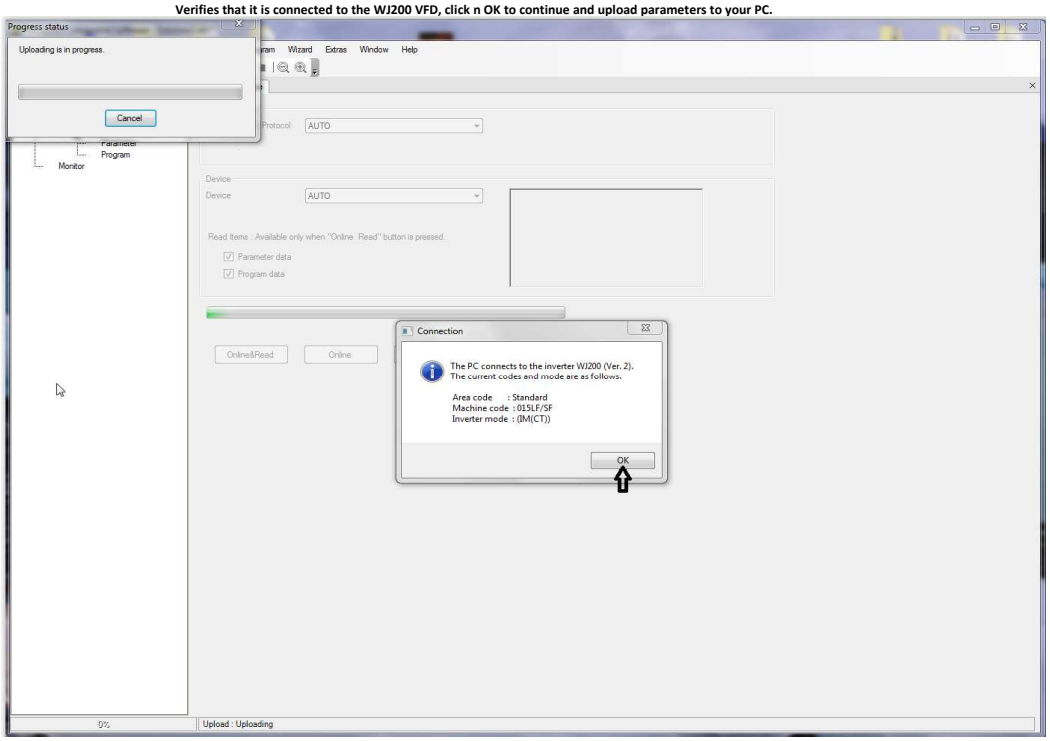
Run Hitachi VFD Software program, click on File and choose new project. Click to download Parameter and Program data and then click on Online&Read.



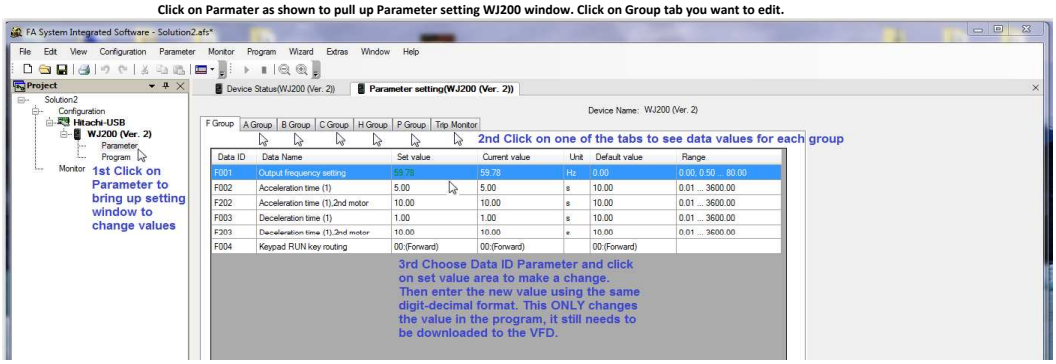
Indicates it is looking for the VFD and Data



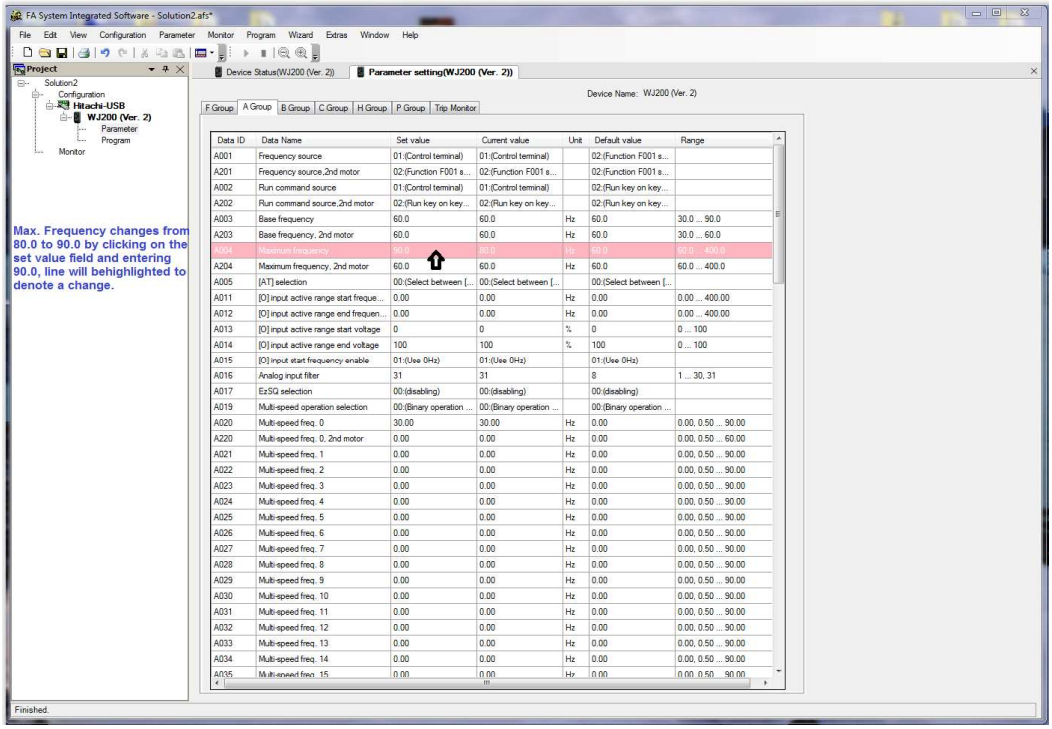
Verifies that it is connected to the WJ200 VFD, click n OK to continue and upload parameters to your PC.



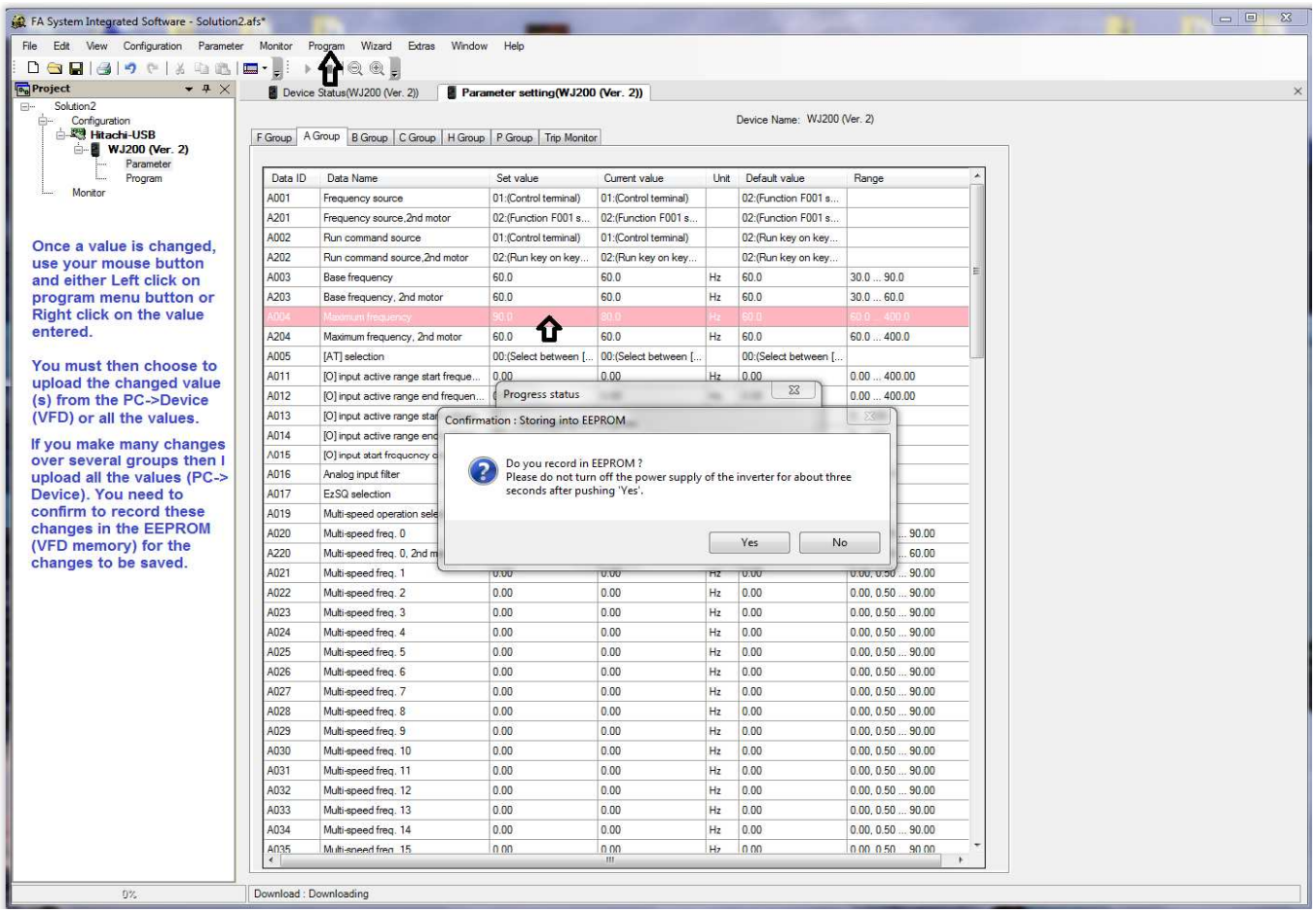
Click on Parmater as shown to pull up Parameter setting WJ200 window. Click on Group tab you want to edit.



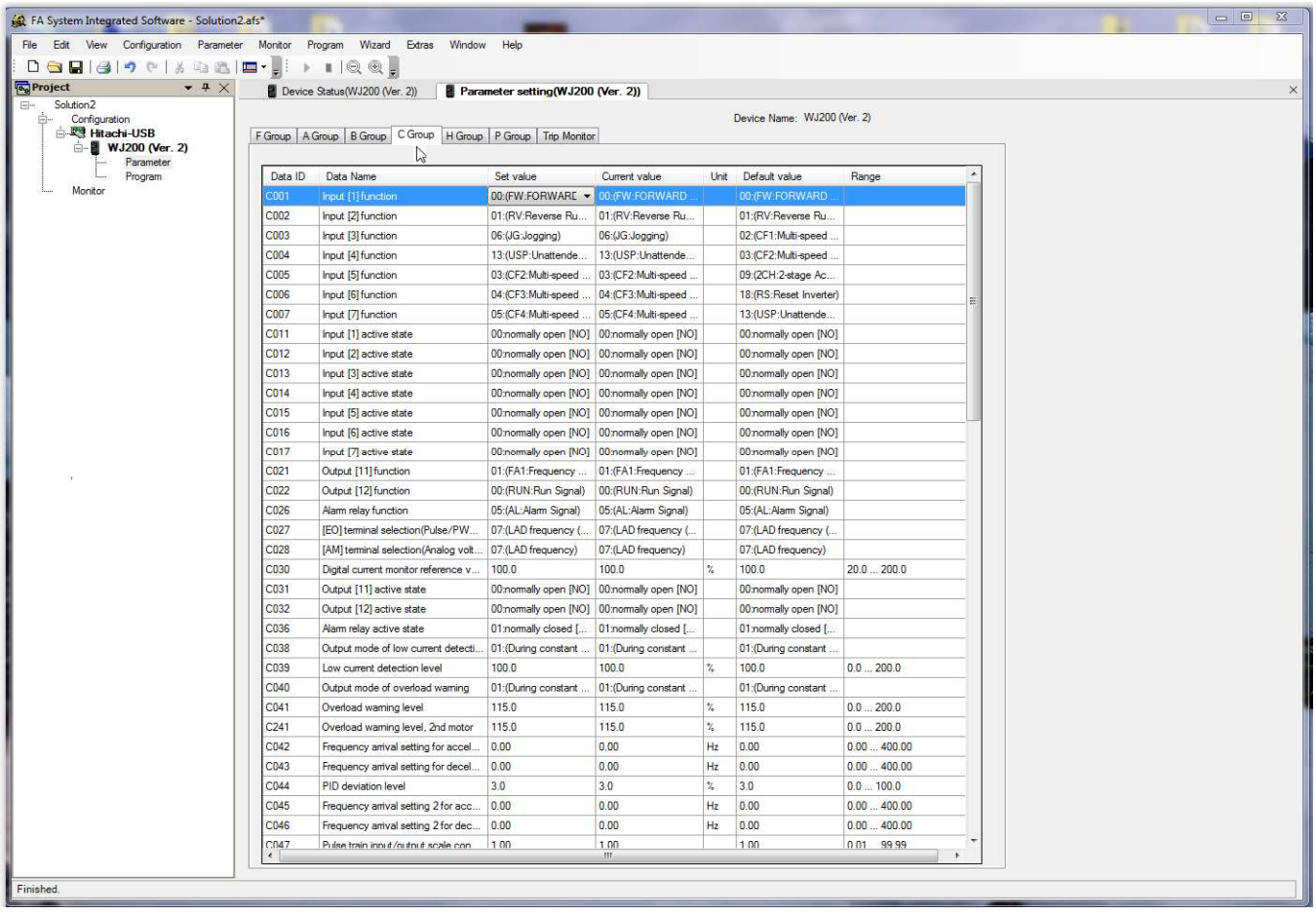
You make changes in the 'Set value" Column, the line(s) will be highlighted to indicate a change(s). The change(s) must then be sent to the VFD.



Program variable changes must be sent from the PC to the VFD, either Left click on the "Program" pull down menu tab, or Right click on the highlighted parameter to pull up the menu.

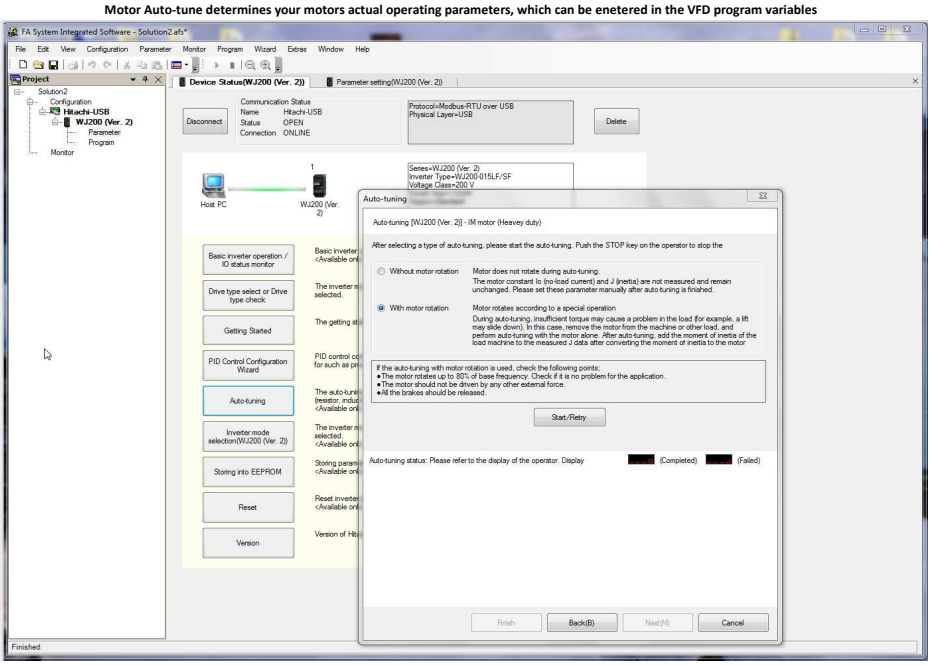


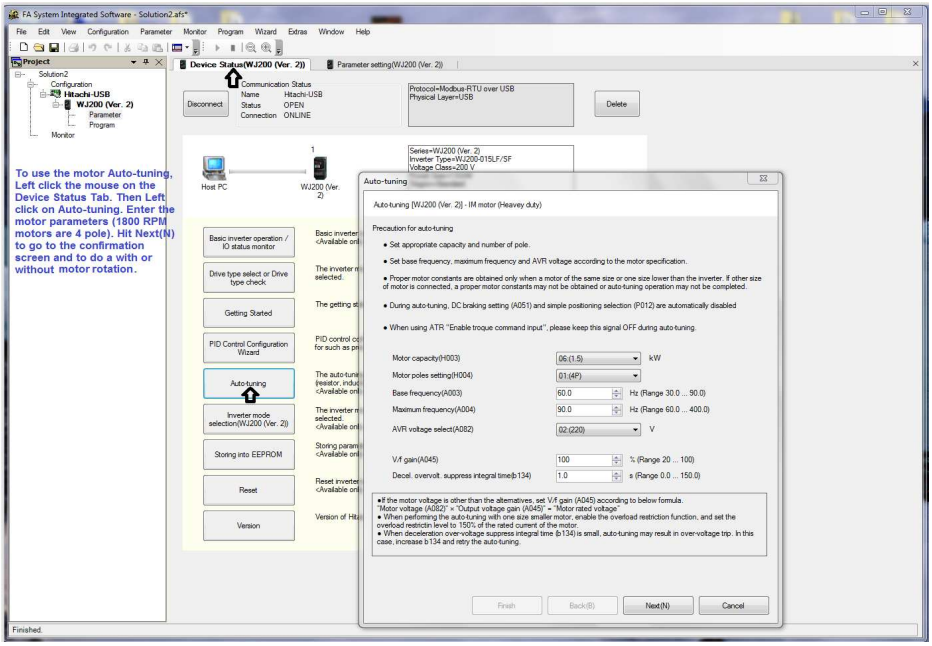
C Group Tab pulls up the program variables for the Input functions

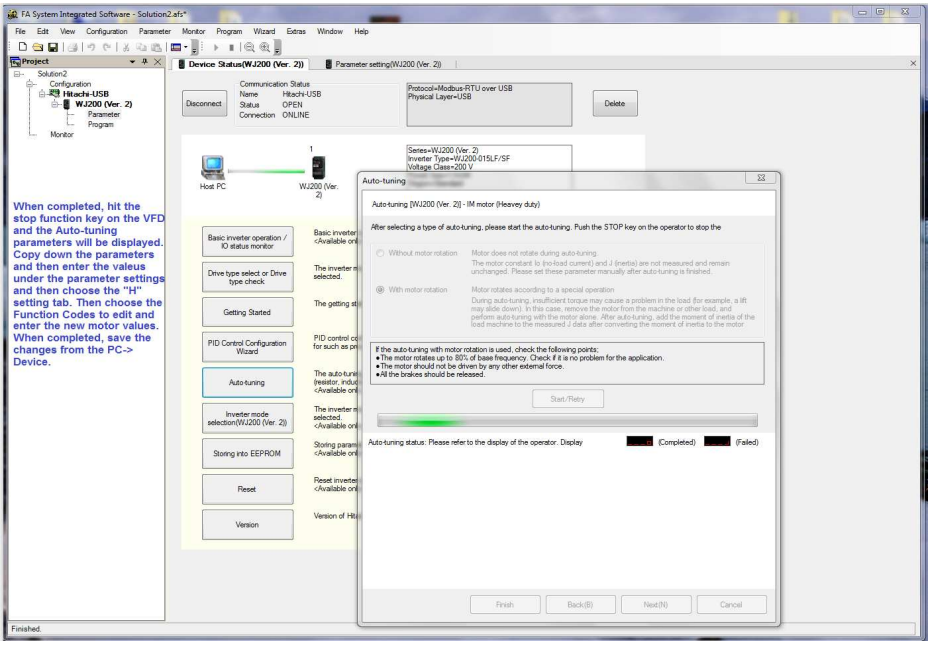


Data ID	Data Name	Set value	Current value	Unit	Default value	Range
C001	Input [1] function	00:(FW:FORWARD	00:(FW:FORWARD ...		00:(FW:FORWARD ...	
C002	Input [2] function	01:(RV:Reverse Ru...	01:(RV:Reverse Ru...		01:(RV:Reverse Ru...	
C003	Input [3] function	06:(JG:Jogging)	06:(JG:Jogging)		02:(CF1:Multi-speed ...	
C004	Input [4] function	13:(USP:Unattende...	13:(USP:Unattende...		03:(CF2:Multi-speed ...	
C005	Input [5] function	03:(CF2:Multi-speed ...	03:(CF2:Multi-speed ...		09:(2CH:2-stage Ac...	
C006	Input [6] function	04:(CF3:Multi-speed ...	04:(CF3:Multi-speed ...		18:(RS:Reset Inverter)	
C007	Input [7] function	05:(CF4:Multi-speed ...	05:(CF4:Multi-speed ...		13:(USP:Unattende...	
C011	Input [1] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C012	Input [2] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C013	Input [3] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C014	Input [4] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C015	Input [5] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C016	Input [6] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C017	Input [7] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C021	Output [11] function	01:(FA1:Frequency ...	01:(FA1:Frequency ...		01:(FA1:Frequency ...	
C022	Output [12] function	00:(RUN:Run Signal)	00:(RUN:Run Signal)		00:(RUN:Run Signal)	
C026	Alarm relay function	05:(AL:Alarm Signal)	05:(AL:Alarm Signal)		05:(AL:Alarm Signal)	
C027	[EO] terminal selection(Pulse/PW...	07:(LAD frequency (...	07:(LAD frequency (...		07:(LAD frequency (...	
C028	[AM] terminal selection(Analog volt...	07:(LAD frequency)	07:(LAD frequency)		07:(LAD frequency)	
C030	Digital current monitor reference v...	100.0	100.0	%	100.0	20.0 ... 200.0
C031	Output [11] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C032	Output [12] active state	00:normally open [NO]	00:normally open [NO]		00:normally open [NO]	
C036	Alarm relay active state	01:normally closed [...	01:normally closed [...		01:normally closed [...	
C038	Output mode of low current detecti...	01:(During constant ...	01:(During constant ...		01:(During constant ...	
C039	Low current detection level	100.0	100.0	%	100.0	0.0 ... 200.0
C040	Output mode of overload warning	01:(During constant ...	01:(During constant ...		01:(During constant ...	
C041	Overload warning level	115.0	115.0	%	115.0	0.0 ... 200.0
C241	Overload warning level, 2nd motor	115.0	115.0	%	115.0	0.0 ... 200.0
C042	Frequency arrival setting for accel...	0.00	0.00	Hz	0.00	0.00 ... 400.00
C043	Frequency arrival setting for decel...	0.00	0.00	Hz	0.00	0.00 ... 400.00
C044	PID deviation level	3.0	3.0	%	3.0	0.0 ... 100.0
C045	Frequency arrival setting 2 for acc...	0.00	0.00	Hz	0.00	0.00 ... 400.00
C046	Frequency arrival setting 2 for dec...	0.00	0.00	Hz	0.00	0.00 ... 400.00
C047	Pulse train input/output scale con...	1.00	1.00		1.00	0.01 ... 99.99

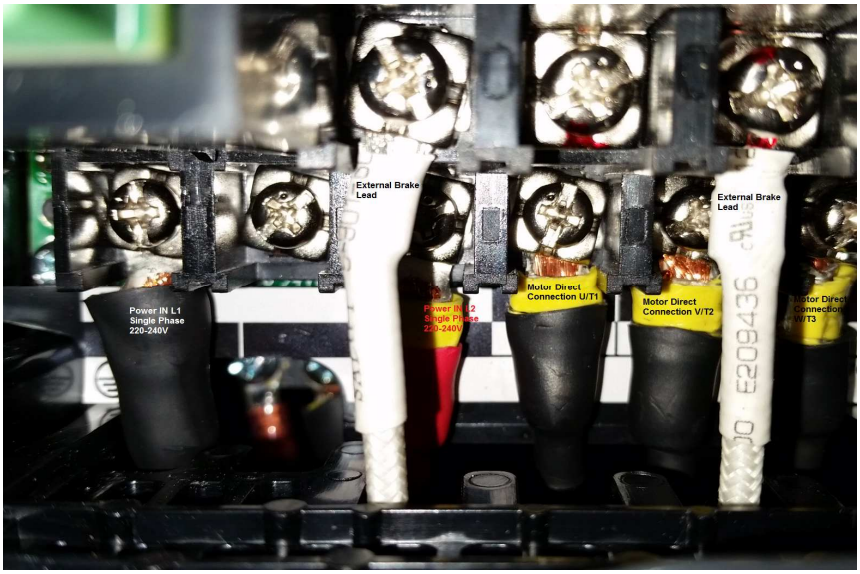
Motor Auto-tune determines your motors actual operating parameters, which can be enetered in the VFD program variables







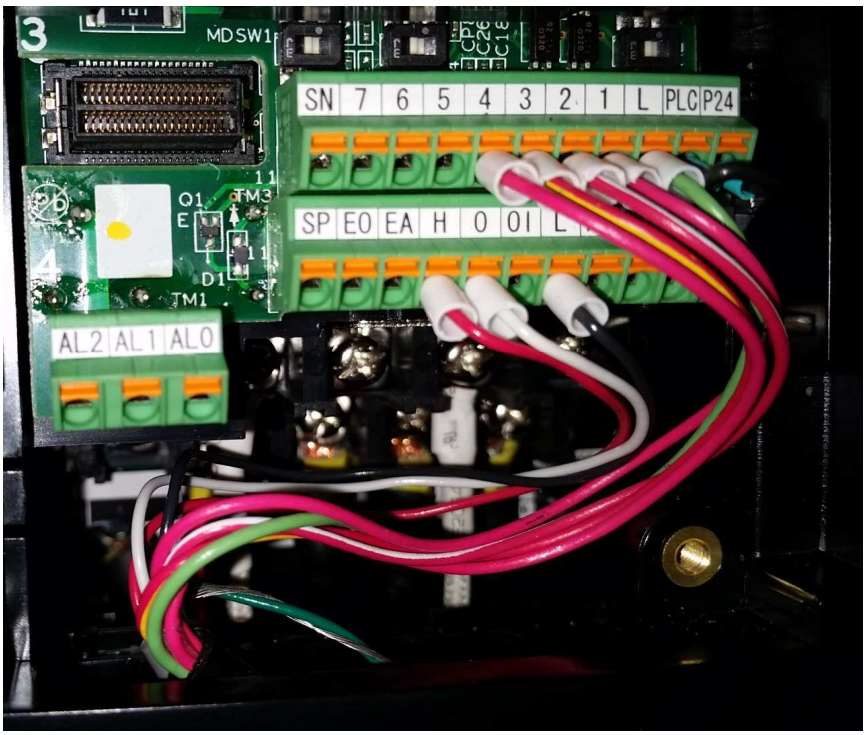
VFD Main Power, Motor Wiring and External Braking Resistor Connections



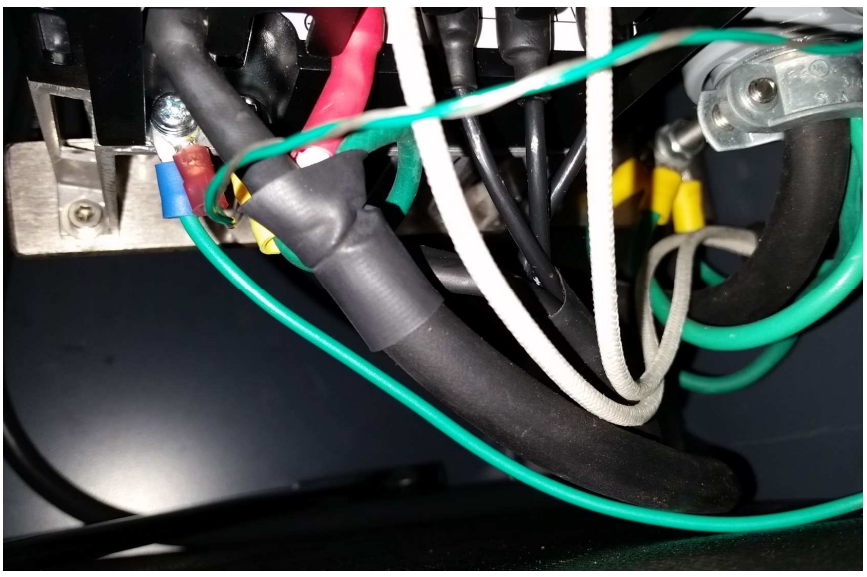
External 50ohm 500W Braking Resistor (for 2HP motor). Must mount to metal surface.

Example of Control Wiring at the Terminal Block. Note all cables have ground shields connected only at the VFD end.

NOTE: L, PLC &P24 CONNECTIONS VARY BASED ON APPLICATION. Connections for schematic are different than pictured here.



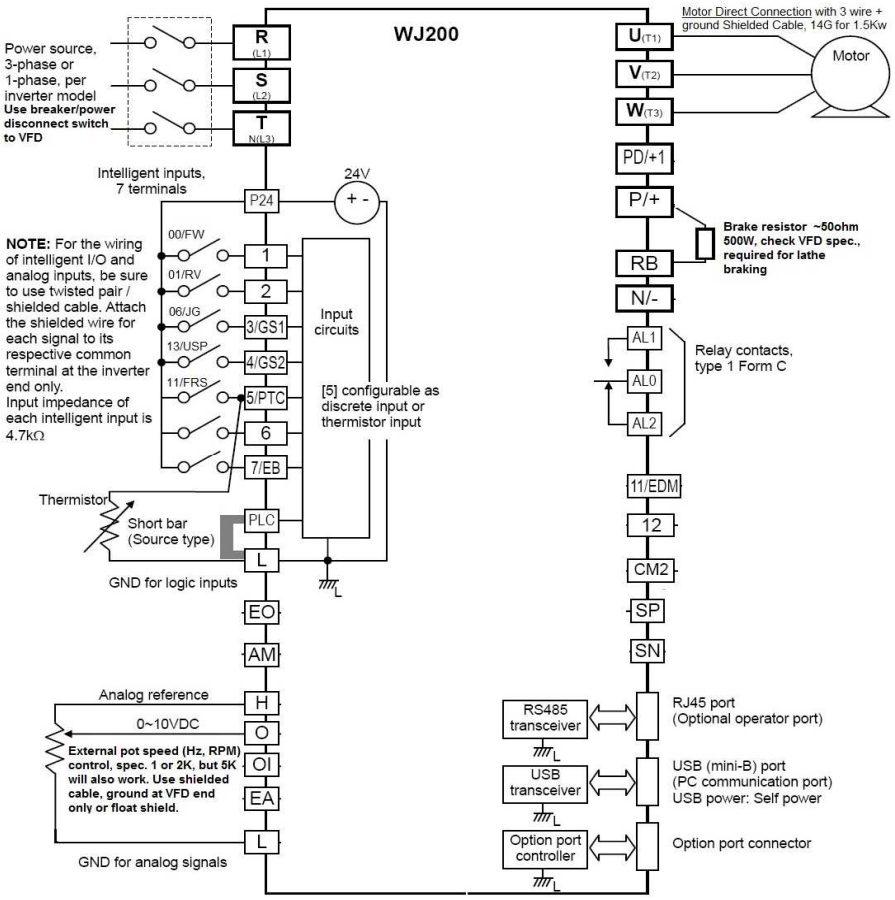
Use Star Grounding, Ground shields only at VFD end of cable.



Finished and Running

Main power switch controls all power, power lamp is through Jog Switch, Speed pot. Sets frequency/speed, MachTach speed indicator

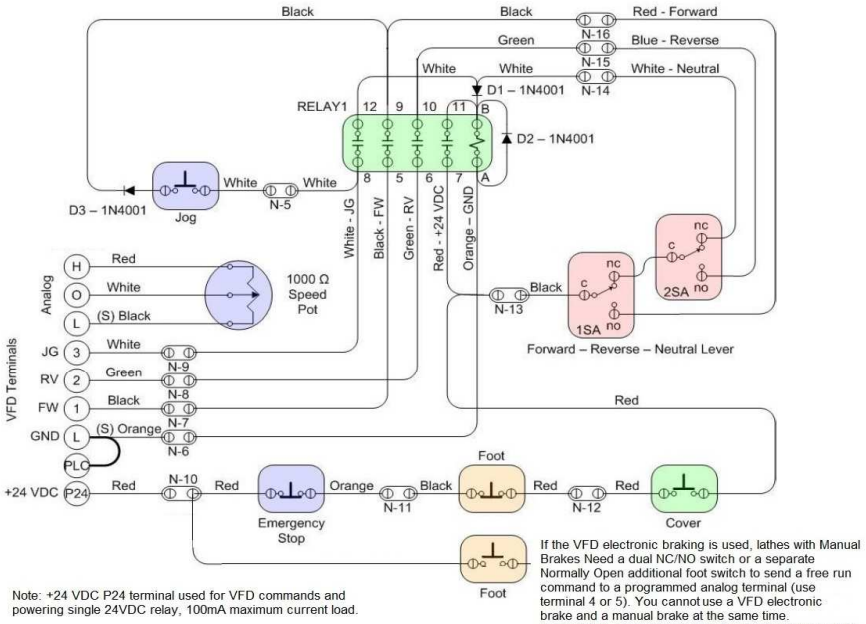
Abbreviated BASIC WJ200 Connection Diagram for connections to a 2HP lathe



Note: The factory schematic short bar is different then the shipped connections in the WJ200 VFD

*****NOTE: L, PLC &P24 CONNECTIONS AND SHORTING BAR JUMPER VARY BASED ON APPLICATION AND VFD. REVIEW INSTRUCTIONS AND CONNECT IN ACCORDINCE WITH YOUR APPLICATION*****

Adapted wiring diagram for PM1236 lathe using a single 24VDC 4 pole relay



Jumper is different based on application & VFD
Default WJ200 jumper is PLC to P24V
To use this schematic note the termianl wiring
Set jumper and connections accordingly

Note: +24 VDC P24 terminal used for VFD commands and powering single 24VDC relay, 100mA maximum current load.

If the VFD electronic braking is used, lathes with Manual Brakes Need a dual NC/NO switch or a separate Normally Open additional foot switch to send a free run command to a programmed analog terminal (use terminal 4 or 5). You cannot use a VFD electronic brake and a manual brake at the same time. Alternatively, you can disconnect the manual brake and use the foot switch as shown to just disconnect the For/Rev command and stop the lathe with the electronic brake only. Stopping times are similar, about 1 second.

Schematic Adaptaion from original poster
http://www.chaski.org/homemachinist/viewtopic.php?f=42&t=96363