

TB229 (Rev1) - Delta VFD-VE (V2) Inverter ATC Settings

Overview:

This Technical Bulletin describes how to set the parameters for the Delta VFD-VE series inverter

To program the Delta Inverter programming parameters:

Each Delta inverter parameter has 2 set of numbers.

Example: 01-02. We will call 01 "Group Parameter" and 02 "Parameter Number."

1. Press "PROG"
2. Press the up or down arrow key to select the group parameter.
3. Press "PROG"
4. Press the up or down arrow key to select the parameter number.
5. Press "PROG" At this time parameter value should be blinking. Use arrow key to change the value.
6. Press "PROG" again to save parameter values or "MODE" to discard.

Continue until all the parameters have been set.

Parameter Settings

00-02	Parameter Reset	10 for 220V 60Hz, then go back and set to 2 to enable group 11 parameters
00-04	Definitions of Multi Function Control	9
00-10	Controls Method	3
00-17	Carrier Frequency Upper Bound	9 KHz
00-20	Source of Master Frequency Command	2
00-21	Source of Operation Command	1
01-00	Maximum Output Frequency	200 Hz 6000rpm 256 HZ 8000 rpm
01-01	1st Output Frequency	60Hz
01-02	1st Output Voltage Setting	220V
01-12	Accel Time	3 to 5 seconds
01-13	Decel Time	3 to 5 seconds (set to 3)
02-04	Multi Function Input Command (MI4)	35 Orient Position Control
02-05	Multi Function Input Command (MI5)	5 Reset
02-11	Multi Function Output 1 (Relay 1)	11 Error Output
02-12	Multi Function Output 2 (Relay 2)	39 Position Attained
02-13	Multi Function Output 3 (M01)	2 Operation Speed Attained
02-14	Multi Function Output 4 (M02)	34 Zero Speed
05-00	Motor Auto Tuning	1-Rolling test, 2 Static Test
05-01	Full Load Current of Motor 1	AMP Dependent on Motor
05-02	Rated Power of Motor 1	HP, Dependent on Motor
05-03	Rated Speed of Motor 1	RPM, Dependent on Motor
05-11	Frequency for Y-connection/Delta connection switch	65 (sets the change over RPM to 2000)
10-00	Encoder Pulses	1024 (Dependent on Encoder)
10-01	Encoder Input Type Setting	1 or 2 depending on Count direction
10-08	ASR 1/ Switch Frequency	100 Hz
10-19	Position Control Point	Orientation Point In Encoder counts *
10-20	Range for PG Position	15 counts
10-22	Gain of Zero Speed	0.1 sec

Setting Orient Position (Parameter 10-19) (Orient card model: EMV-PG01L)

Parameter 10-19 tells the inverter where to position the spindle via encoder counts to orient for use with a ATC. To determine the correct encoder counts, please follow the following steps:

1. Home the machine.
2. To locate the index pulse rotate the spindle one revolution by hand.

3. For Umbrella type: bring the carousel in with M80 (make sure holding down Aux12). For swing arm type: bring the arm in with M13(make sure holding Aux12)
4. Slowly jog the Z Axis down and rotate the spindle by hand until the "half key" is lined up with the notch in the ATC.
5. At the inverter Press Mode until the "U" led lights up.
6. Record this number and enter in Parameter 10-19

Auto Tuning Procedures

1. Static Tuning only. Make sure parameter 05-00 is 2.
2. Make sure all power wiring is correct.
3. Enter the motor rated voltage in parameter 01-02 and the frequency in parameter 01-01
4. Set parameter 05-00 to XXX, then press RUN on the digital keypad for auto tuning. This takes about 2 minutes.
5. After auto tuning is complete, verify the following parameters have been updated. Parameter 05-02, 05-06 to 05-12. If not rerun Autotune.

Note:

Multi-Function I/Os on the inverter should be in "sink" mode. There is a jumper on the board behind the orientation card.

If PU mode is locked, please follow the following steps below to unlock it.

1. P00-02 = 2
2. P00-02 = 5577
3. P11-08 = 8

Document History

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