Default Mitsubishi Drive Parameters

Parameter	Description	Value	Description
77	Parameter write selection	2	allow parameter writes regardless of status ****SET THIS ONE FIRST***
1	Maximum Frequency	120Hz	max output frequency
7	Acceleration time	0	seconds
8	Deceleration time	0	seconds
9	Motor full load amps	16A/3.7A	16A for 5Hp; 3.7A for 1Hp
13	Starting frequency	0.5	Motor won't start until the speed signal is at least this value.
30	Regenerative function	1	External brake resistor, L1/L2/L3 power source
70	Regenerative brake duty	10.00%	duty cycle of the braking resistor
71	Motor type	3	Other mfg. standard motor
72	Carrier frequency	15	Reduces output noise
73	Analog input selection	1	Terminal 2 input 0 to 5V without reversing
79	Control mode	2	Keypad disabled, external control
80	Motor capacity	3.7/0.75	3.7 kilowatts for 5Hp; 0.75Kw for 1Hp
83	Motor voltage	230V	Motor voltage
84	Motor rated frequency	60Hz	Motor rated frequency
118	PU communication speed	96	Value x 100 = comm. speed bps
119	PU communication stop bit length	0	Stop bit = 1. Data length = 8
120	PU communication parity check	0	Without parity check
121	Number of PU communication retries	9999	If a communication error occurs, the inverter will not come to trip
122	PU communication check time interval	9999	No communication check
123	PU communication waiting time setting	50	Set the waiting time between data transmission to the inverter and the response
124	PU communication CR/LF selection	0	Without CR/LF
125	Terminal 2 frequency setting gain frequency	60Hz	** Max frequency (adjust for overspeed) **
190	RUN output	199	Fault output (normally closed, opens if fault)
192	Relay output	0	Running
197	SO terminal	180	Safe Stop output (normally closed, opens if stopped)

VFD Auto-Tuning

The Mitsubishi D700 Variable Frequency Drive (VFD), like many VFDs, has a built-in auto-tuning procedure which electrically probes the motor to give the VFD a better understanding of the motor it is tasked with controlling. This procedure should be run every time you connect the Stagehand to a different motor since different motors have different electrical properties. The operation typically takes less than a minute and does not move the motor shaft substantially, but will release the motor brake so the drive can sense the motor's reaction to applied power.

Auto-tuning procedure:

1. Confirm the E-Stop is released
2. Set parameter 77 to '2' (allow parameter writes regardless of status)
3. Set parameter 9 to the motor rating (check the connected motor nameplate)
4. Set parameter 71 to 3 (other mfg. standard motor)
5. Set parameter 80 to the motor capacity (confirm correct value from the motor nameplate)
6. Set parameter 83 to 230V
7. Set parameter 96 to 11 (offline auto-tuning without moving)
8. Press and hold the FWD jog button on the face of the Stagehand to begin the tuning process

During the tuning process the keypad displays "12". If it completes successfully, the keypad will displays "13". If there was an error, the keypad displays "9". For more information see the Mitsubishi D700 series manual starting at page 105.