

Adjusting VFD's

subject: When To Change Parameters - and When Not To

BACKGROUND

When a “Variable Frequency Drive” (“VFD”) is installed for a motor (or set of motors):

- The VFD *may* come with certain standard factory-set “Parameters” (“Constants”), such as: “Ramp-Up Time”, “Ramp-Down Time”, “Coast Time”, “Brake Set After Coast Time”, etc.
- The VFD *may* come with certain special factory-set Parameters for the particular installation, such as: “Motor Full Load Amps (FLA)”, “Mode (‘Traverse’ or ‘Hoist’)”, etc.
- A “Qualified” Electrician must verify that all the Parameters – factory-set and all others – are correct for the particular installation; modify them as needed; and make sure each & every Parameter is set appropriately.
- Due to the Complexity of the task, and the Capital Investment of a typical installation: this is usually done by a “Master”-level; City-Licensed, Union-Certified, or otherwise “Qualified Electrician”.

OPERATIONS

Once a VFD is “Dialed-In” by a Qualified Electrician, it should continue to operate faultlessly – continuously and with no problems – until a “Defect” happens with something. For example: a shorted motor winding, a shorted wire, a broken gear, a faulty cable, a loose Position Sender (“Pulse Generator” / “Encoder”), a loose coupling, etc., etc. This is what the VFD is engineered to do.

Once a problem happens, the *last* thing you want to do is start changing the VFD Parameters:

- An upper-level Electrician once spent a lot of time “Dialing-In” these Parameters: to get the motor(s) operating optimally, with the best “Fault Protection” for it, in case of any Defect.
- If there *is* a Defect: you want to investigate and repair the Defect, instead of just changing settings on the VFD to ignore the Defect.
- Again, due to the Complexity of the task, and the Capital Investment of a typical installation: modification of the VFD Parameters *in any way shape or form* is usually / best done *only* by a Qualified Electrician.

REPAIRS

- Find a Master-level / “Qualified” Electrician.
- Have him pull up the “Fault History” on the VFD.
- Have him get & read the VFD’s “Operation Manual”. Have him refer to the “Troubleshooting” section of this Manual, and suggest repair strategies for this particular “Fault”, as recommended.
- Have him manage and / or follow up on repairs, as needed.
- **Only as a “Last Resort” – in some hypothetical I cannot imagine – do you want a non-Master-level Electrician changing Parameters on a VFD.**
- Because that’s probably not going to do anything helpful in any way...