

AC DRIVE INSTALLATION CHECK LIST

Description:

This checklist summarizes the guidelines that need to be addressed during installation of an AC drive.

Installation Check List:

Note: Ambient temperature is not just the temperature outside the enclosure - - it means the ambient around the drive, which may be inside an enclosure. What is the temperature around the drive – wherever it is located? That is considered “Ambient” from a drive perspective.

If feedback devices are mounted to the motor, check the feedback device manual for mechanical precautions. Normally, feedback cables must be properly terminated, no breaks in the cable from device to drive (no couplers or terminal connections).

Some drives need to have an “ID Run” (Identification Run, Group 99) procedure done prior to full commissioning. The drive spins the motor only and checks the electrical characteristics of the motor. (The motor must be de-coupled from the load in order for the drive to obtain accurate readings). If the motor cannot be de-coupled from the load, a “Reduced” ID run can be done to improve performance characteristics – compared to no ID Run at all.

Once an ID Run is done, the motor needs to be re-coupled to the load so an “Auto Tune” can be performed (drive operates the motor and load at maybe 40-60% speed and tunes the response of the drive internal gain and integration time. This makes the motor and drive more responsive to changes in speed and load). This function may not be in all drives.

Mechanical Checks - Drive (Mounting)

- Altitude
- Humidity
- Ambient Temperature around the drive
- Cooling adequate
- Contamination
- Enclosure Type appropriate for the installation
 - Flange Mount installation requirements met (optional)
 - Flange Mount cooling requirements met

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- Mounting Surface appropriate
- Spacing between drives appropriate
- Orientation appropriate
- Vibration appropriate

Electrical Considerations

- Drive Connections (within Voltage tolerance, PF Caps)
 - Input Power
 - Output Power
 - Control (24VDC or 120VAC, Fieldbus, etc.)
 - Feedback devices (encoder, tachometer, etc.)
- Motor Connections (cable length, suppression if applicable)

Mechanical Checks – Motor (Mounting)

- Feedback devices securely attached (if applicable)
- De-coupled for ID Run (if applicable)
- Coupled for Reduced ID Run (if applicable)
- Re-Coupled for Auto Tune (machine & motor performance)

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