

	TIPS & HINTS Run AC Drive Faster Than 60 Hz		Document Number: T&H0004	
	Owner	Approval Date	Language	Page
Bob Dampier	August 18, 2008	English	1 of 2	0

Purpose

The purpose of this document is to describe the guideline to run all current AC Drives faster than 60 Hz. "How do I run an AC Drive faster than 60 Hz?"

Reference your drive User's Manual, parameter Group 20 Limits, Group 11 Reference Select and Group 99 Startup Data.

Instruction

To make the drive go faster than 60 Hz you need to increase the limits in group 20 and in group 11. Depending on what parameter 99.04 (Motor Control Mode) is set to will determine which limits are being used.

If 99.04 (Motor Control Mode) is set to Scalar then 20.08 Max Frequency sets the Upper frequency limit. Set this to the frequency you want to run as maximum. You also need to change 11.05 (Ref1 Max) to match what you set in 20.08. (If Ref2 is used then 11.08 (Ref2 Max) should be set similarly.)

If 99.04 (Motor Control Mode) is set to Vector or DTC then 20.02 Max Speed sets the Upper Speed limit. Set this to the RPM you want to run as maximum. You also need to change 11.05 (Ref1 Max) to match what you set in 20.02. (If Ref2 is used then 11.08 (Ref2 Max) should be set similarly.)

To calculate the RPM that corresponds to a desired maximum frequency utilize the following:

$$\begin{aligned} \text{Motor Nameplate RPM} &= \text{Base Speed} \\ \text{Motor Nameplate Frequency} &= \text{Base Freq} \\ \text{New Max Freq} &= \text{New Max Freq} \end{aligned}$$

$$\text{New Max Speed (rpm)} = \text{Base Speed} / \text{Base Freq} \times \text{New Max Freq}$$

Example:

$$\begin{aligned} \text{Motor Nameplate RPM} &= 1750 \text{ rpm} \\ \text{Motor Nameplate Frequency} &= 60 \text{ Hz} \\ \text{New Max Freq} &= 85 \text{ Hz} \end{aligned}$$

$$\text{New Max Speed (rpm)} = 2479.16 \text{ rpm} = (1750 / 60) \times 85$$

Revisions

Rev.	Section	Description of Change	Modified By	Date
0		Initial Distribution	BD	18 Aug 2008