The Application Note is pertinent to the Focus 3 Family

**Focus 3 Drives in Tachometer Follower Applications**

There are many applications that require a second drive to follow the speed of the first (or primary) drive. There are two basic methods used, the first is a parallel method and the second is a cascaded method. In the parallel method the speed reference of the first drive is sent directly to the second drive (as a speed reference) while in the cascaded method, the speed feedback (tachometer) is directed to the second drive as a speed reference. A disadvantage to the parallel method is that if for some reason the first drive slows down while in a current limit condition, for example, the second drive would no longer follow since it may not be in a current limit condition. This is not the case for the cascaded method since the drive is following the actual speed of the first drive.

The Focus 3 drive lends itself very well to this through the use of the Auto / Manual feature of the drive. Diagram #1 below shows Focus 3 Regen Drives set up in a Master / Follower arrangement. The tachometer of the master drive is simply connected directly to the voltage follower input of the second drive. This is allowable since the Focus 3 Regen is isolated from the power section of the drive and thus the signal common points of each drive may be tied directly. In the auto mode, the second drive will follow the tachometer of the first and in the manual mode, the second drive will follow its own speed potentiometer (ie. for set up purposes).
Diagram #2 shows the same application as diagram #1 above with the exception that since the Focus 3 Non-regen drives are **NOT** isolated from the power section (like its’ regen counterpart) the tachometer signal must be isolated before it is directed to the follower drive. The Focus 3 isolator option (p/n F3NSBD) is ideally suited for this purpose since it is powered directly by the Follower drive and connections are minimal.

![Diagram #2](image)

**Focus 3 Un-isolated Non-regen Drives**

Diagram #2

Diagrams #3 & #4 on the next two pages show the actual drive interconnection drawings for the Focus 3 Regen and Non-regen Master / Follower Applications.

Questions ?? Ask the Author:

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Focus 3 Regen Master / Follower Application

Diagram #3
Focus 3 Non-Regen Master / Follower Application

Diagram #4