![DANAHER MOTION]

Application Note

Group	Drives		Date	11/28/2007
Series	CD Series 5		Revised	
Element Group	EnDat Encoder		Revision	Original
Element	Homing		Author	Gordon S. Ritchie
			# Of Pages	2

Home CD Series 5 with EnDat Encoder to an Offset

Languages	Target Group	Status	Usage	International Restrictions checked = allowed to view
☑ English	☐ Basic	☐ In Process	☐ Internal	☑ Citizens/Nationals of U.S.A.
☐ German	☑ Normal	☑ Completed	☑ Public	☑ Non-Restricted Countries, End Uses, and End Users (www.bis.doc.gov)
☐	☐ Specialist			

About the Content:

This document explains how to set a homing position that is offset from the EnDat Encoder's marker pulse or marker position.

Content

Determine Homing Type

The first step is to decide what type of homing is going to be used. Homing can be initiated in several ways, such as an **MH** (Move Home) command, home on marker, or home on Enable.

HOMETYPE

Defines the type of homing function performed. This variable takes on a different meaning depending on the type of positioning selected (using PDMDMODE). … "Marker" refers to an encoder's index pulse... [Setup and Reference Guide: ServoStar S; ServoStar CD. 03/01/02. Pg 43]

To set a homing position to an offset the homing must be set to a marker and the HOMETYPE needs to be set to one of the following:

HOMETYPE 2:   Homes on an MH (move home) command.

HOMETYPE 4:   Homes on every enable, MH command or input (INxMODE = 12 for one of inputs 1-3). CAUTION: if machine is powered up with hardware enable applied you will get motion.

HOMETYPE 5:   Home on every MH command or input. (Inputs 1-3 can be set to 12 [INxMODE = 12] to command a move home.)

Determine the Offset

After the HOMETYPE has been set, the offset needs to be determined.

1) Home the system
2) Query PFB (*PFB should read 0 if the homing command executed correctly.)
3) Disable the drive
4) Move the motor to the desired location
5) Query PFB again (record number)

Set the Offset
The difference between the home position and the desired position is the offset. In the previous step, PFB is read to get the offset, however, **ZPOS** must be set for the EnDat Encoder.

To find **ZPOS:**
- Query **MSININT** (record number)
- Query **SININTINT** (record number)
- Use the **PFB** value found in step 5 above to calculate ZPOS.

ZPOS = PFB *(**SININTINT/MSININT**)

6) Set **ZPOS** to the value calculated.
7) Save the **ZPOS** into the encoder's memory by using **HSAVE**.

Check The Offset

To perform a quick check to make sure the ZPOS is correct, move the device off its desired position and give the drive an MH command. The drive should home to the desired position.

To verify the offset, cycle the power and home.