

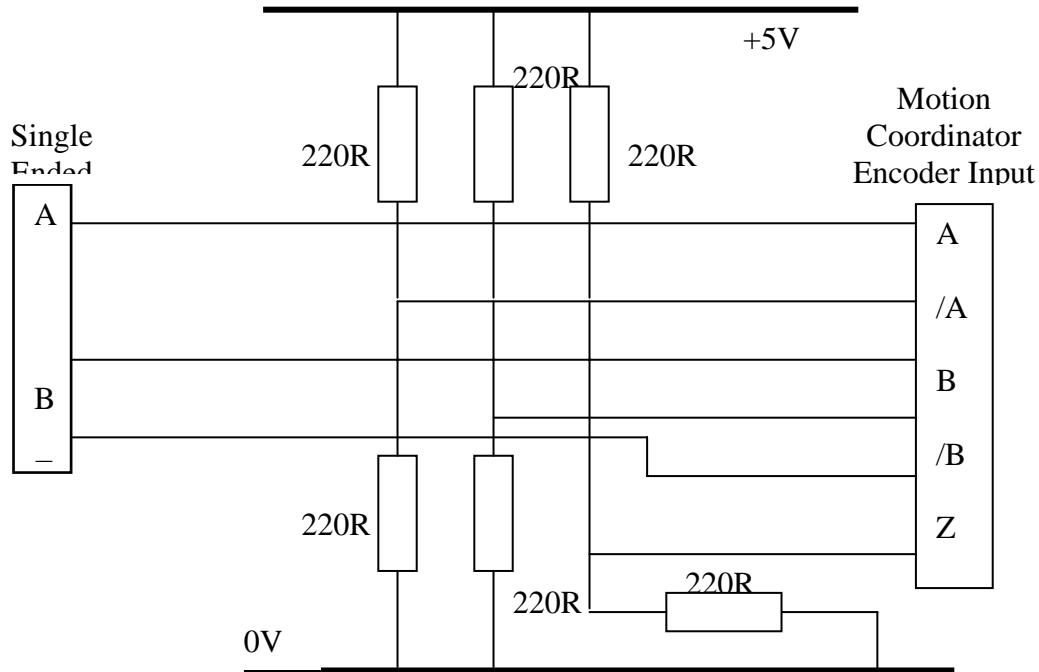
# Motion Coordinator Application Note

Number:MC1004, Revision 1, 2/28/2007

Subject: Connection of Single Ended Encoders

The Control Techniques range of Motion Coordinators all use differential input RS422 level signals for connecting incremental encoders as feedback devices and as line speed/position inputs.

If it is necessary to connect a single ended encoder, the "inverse" input for each channel must be biased at half supply voltage. The simplest bias network is a potential divider between 5V and ground with resistor values arranged to give 2.5V at the center tap. Figure 1 shows a suitable circuit for the P200 Series of daughter boards and the Euro205.



**Figure 1: Bias Network for P200 Daughter Board / Euro 205**

Each input requires a separate bias network because of the internal termination resistor between sig and /sig on each channel. The MC202 does not have termination resistors so for this controller ONLY, one pair of 2k7 resistors can be used to generate the common 2.5V bias for /A, /B and /Z.