

Application Note

AN-ODP- 40

Achieving positive and negative speeds with a 0..10V input

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Revision: 2.21 6 September 2006

• **General:**

Using the bipolar analog input, both positive and negative speed directions can be achieved. This is generally achieved using a bipolar control signal on the analog input (-10V...10V). It is, however, possible to achieve bi-directional speed control with a uni-directional (0..10V) control signal, without using a reverse switch input.

This document describes how to configure the drive to achieve bi-directional speed control using a 0..10V control signal.

• **Drive setup:**

P2-30 Bipolar analog input format

This parameter must be set to “-10V..10V” in order to enable bi-directional motor speed control.

P2-32 Bipolar analog input offset

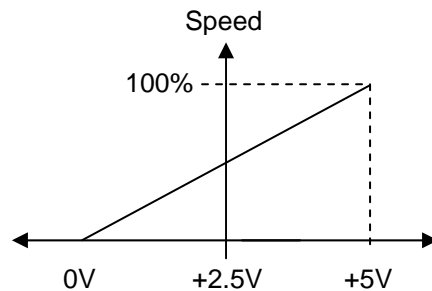
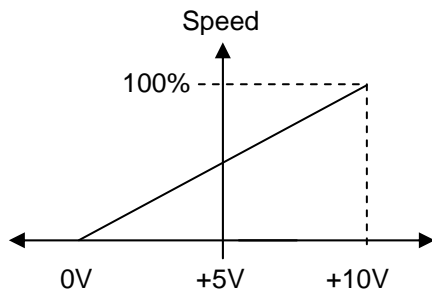
For a 0..10V input control signal, set this parameter to 50%
 For a 0..5V input control signal, set this parameter to 25%

P2-31 Bipolar analog input scaling

For a 0..10V input, set this parameter to 200%
 For a 0..5V input , set this parameter to 400%

For a 0..10V input signal range, the speed will be maximum at 10V, zero at 5V and negative maximum at 0V.

For a 0..5V input signal range, the speed will be maximum at 5V, zero at 2.5V and negative maximum at 0V.



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