

Application Note

AN-VTC- 46

***Bipolar speed control with single potentiometer***

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• **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) signal or a single potentiometer connected between drive terminals 5, 6 and 7 (which uses a 0..24V control signal), without using a reverse switch input. This document describes how to use the potentiometer input to achieve bi-directional speed control.

More information can be found in AN-VTC-40 if a 0..10V analog signal is being used.

Note that this 0...24V bi-directional speed control function is only available in drives which have firmware version 2.21 or later.

• **Drive setup:**

**P2-30 Bipolar analog input format**

This parameter needs to be set to “-24V..24V” mode in order to enable the bi-directional motor speed control function using 0..24V volts output available from drive control terminal.

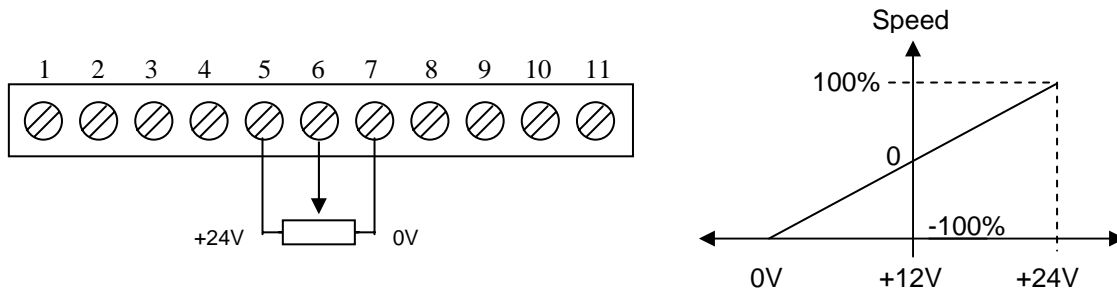
**P2-32 Bipolar analog input offset**

Set this parameter to 50%, such that 12V on the analog input will result in 0Hz on the speed output

**P2-31 Bipolar analog input scaling**

Set this parameter to 200%

The output speed will be maximum at 24V, zero at 12V and negative maximum at 0V.



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