



## ALLEN-BRADLEY BULLETIN 1336 PLUS HIGH/LOW SPEED POT SELECTOR

APPLICATION NOTE # 1336S - 13

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### PURPOSE

The purpose of this document is to provide guidelines for wiring and control schemes for the Bulletin 1336S AC Drive. This document is to be used as a suggestion only. Users must ensure that installations meet applicable codes and are suitable for the existing conditions.

The Bulletin 1336S User Manual should be used as a reference to ensure that proper wire selection, routing and fusing guidelines are followed.

### WHAT THIS NOTE CONTAINS

The Bulletin 1336S remote speed pot can be configured for a HIGH/LOW function with the use of a selector switch and fixed resistors. This allows the User to switch from a LOW speed to HIGH speed with the switch and still utilize the POT to trim the speed.

### INTENDED AUDIENCE

This application note is intended to be used by personnel familiar with the hardware components and programming procedure necessary to operate the Bulletin 1336S.

### WHERE IT IS USED

The diagrams, parameter settings and auxiliary hardware used in this application note are designed to address specific issues in many different applications. Some changes by the User may be necessary to apply the concepts of this document to a specific application.

**DESCRIPTION**

The addition of two fixed resistors is necessary to create an offset for the HIGH/LOW function. The following operating frequencies are based on a drive minimum frequency setting of zero hertz and a maximum of 60 HZ. Installing a 10K ohm resistor between TB2 terminal 1 and the high end of the speed pot will create a maximum frequency of 33HZ when the remote speed pot is fully CW. Installing the 10K ohm resistor between TB2 terminal 3 and the return of the speed pot will create a minimum limit of 33HZ. To complete the circuit, a 2-position selector switch is utilized to select which resistor is in the circuit.

With the switch in the LOW position, the resistor between TB2 terminal 1 and the speed pot will cause a voltage drop resulting in a frequency range from 0-33HZ.

When the switch is set to the HIGH position, the resistor between TB2 terminal 1 and the speed pot is bypassed with the switch. The other resistor is pulled into the circuit between TB2 terminal 3 and the speed pot return. This resistor will cause a voltage drop after the pot creating a frequency range of 33-60HZ. Refer to figure 1 for diagram.

Overlapping contacts on the selector switch are not required for this application. A 3-position selector may be used to offer a MID speed. The MID setting would open both sets of contacts. The frequency range will be from 23-46HZ.

**APPLICATION  
CONSIDERATIONS**

When operating in the LOW speed mode the full range of the speed pot can be utilized. In the HIGH speed mode the speed pot must not be turned fully CW or an OPEN POT FAULT will occur. The speed pot should be limited to a 340 degree maximum turn.

The recommended wattage value for the fixed resistors and potentiometer are 2 watts.

**PARAMETER  
SETTINGS**

Number	Group	Name	Value
7	Setup	Freq Select 1	1=Remote Pot
8	Setup	Accel Time 1	0-600 Sec
10	Setup	Decel Time 1	0-600 Sec

The acceleration and deceleration times set in parameters 7 and 8 determines the rate of change in frequency between the minimum and maximum frequency settings.

FIGURE 1 HIGH/LOW SPEED POT

