



## 10KOHM STE POTENTIOMETER TABLES

*Dave Bohlmann, 21 May 2018*

### OVERVIEW

Some STEs use a manual dial with a 10Kohm potentiometer as a way for the user to change setpoints. As the dial is turned, the input voltage changes in a non-linear fashion due to the voltage divider circuit in the controller. We can use a device table to linearize this.

### INPUT CONFIGURATION

Use one of the two tables described below, and configure your controller input to be 10 Kohms. The tables can be used on any KMC controller.

### FOR POSITIVE-ONLY RANGES

If the range of values you want to represent using the STE are all positive values, then use the `10k-pot_0-to-1_linear.csv` table. It will yield values from 0.0 to 1.0 across the entire mechanical sweep of the potentiometer. You can then use Control Basic, or set a multiplier and/or offset to change this range into your desired range.

For instance, if you want your range to be 0 to 100, simply set the multiplier to 100.0, or read the input and multiply it in Control Basic by 100. If you want the range to be 65 to 90, then set the multiplier to 25 (90-65), the offset to 65 and use the first table.

### FOR NEGATIVE TO POSITIVE RANGES

If the range of values you want to represent are centered around 0.0, and will be both positive and negative, then use the `10k-pot_-1-to-1_linear.csv` table. It will yield values from -1.0 to 1.0 across the entire mechanical sweep of the potentiometer. You can then use Control Basic, or set a multiplier and/or offset to change this range into your desired range.

For instance, if you want your range to be -50 to 50, simply set the multiplier to 50.0, or read the input and multiply it in Control Basic.