



BAPI 10K TYPE 4 THERMISTOR TABLES

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OVERVIEW

These two tables can be used with BAPI 10K Type 4 thermistors. These are thermistors, not RTDs. The main differences between thermistors and RTDs are:

- Thermistor resistance DECREASES with INCREASING temperature, whereas RTD resistance will INCREASE
- RTD resistance values are pretty linear, whereas thermistors have a marked curve to them
- Thermistor resistance will change considerably more over their temperature range, compared to RTDs

These tables have limits of -25 to 170 °F (-32 to 77 °C).

INPUT CONFIGURATION

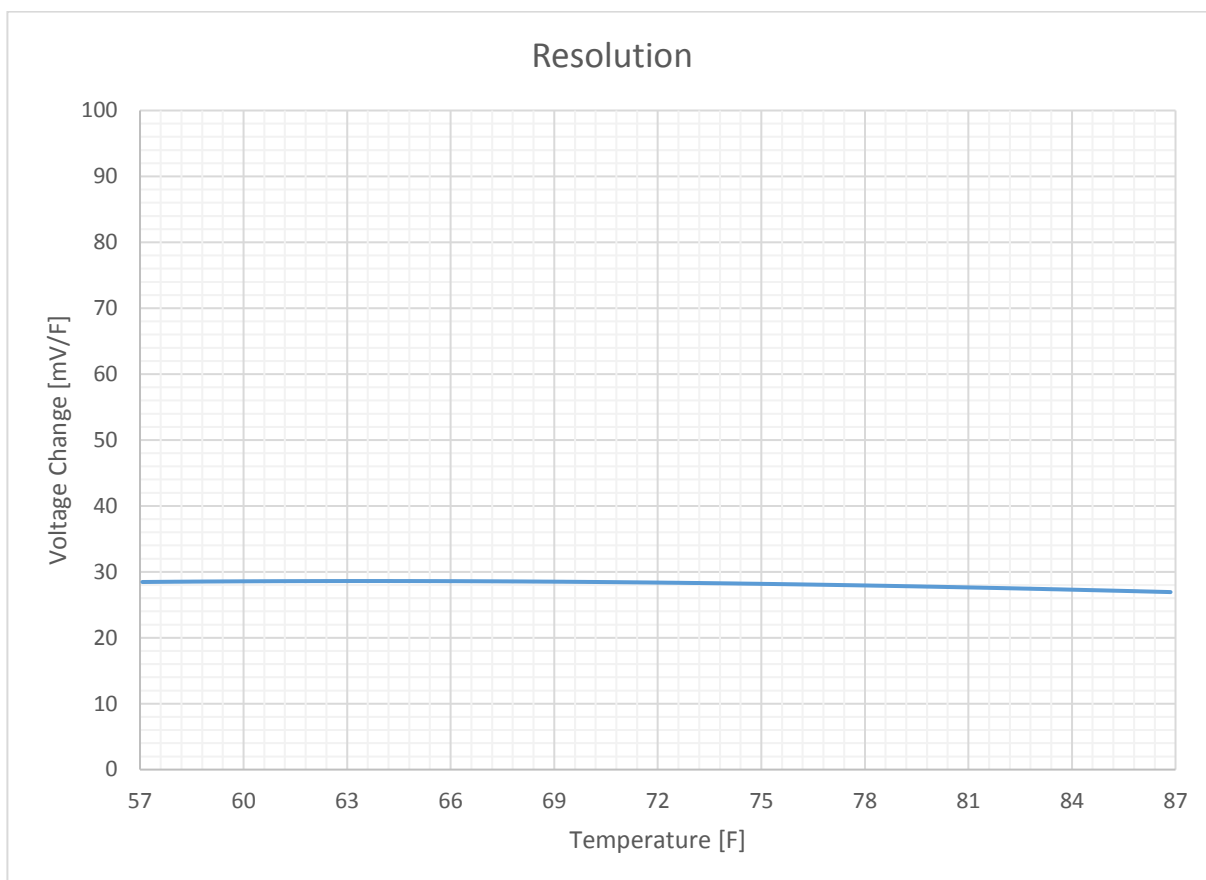
Use one of the two tables below, and configure your controller input to be 10 Kohms. Set multiplier to 1 and offset to 0. Use the proper table for the desired units:

- `bapi-10k-4_Fahrenheit.csv` for Fahrenheit
- `bapi-10k-4_Celsius.csv` for Celsius

RESISTANCES

You should double check that this table is the correct one for the BAPI 10 Kohm sensor you are using. The four key resistances below can be checked with a table in the datasheet for your sensor. These should match within 250 ohms for all four:

- 0 F = 60,803 ohms
- 32 F = 27,348 ohms
- 77 F = 10,000 ohms
- 100 F = 6,314 ohms



The Resolution shown above is based on a 3V reference voltage. It can be used to compare other sensor resolutions for charts using the same reference voltage. It also illustrates how much noise on the sensor wire to the input can affect the measured temperature – a few tens of millivolts can make an error of 0.5 F or more.

The actual voltage on the input to the controller depends on the controller's reference voltage. If your controller is based on 5V, then multiply the values in the chart above by 5/3.