

### Introduction

To optimize measurement performance and minimize long-term maintenance expenses, use the following tips as a practical guide for temperature sensor selection.

Source: <https://www.controleng.com/articles/temperature-measurement-with-rtds-thermocouples/>

### Tips

1. Use an RTD when measuring in ranges between -40° and 850°C (-40° and 1,562°F)
2. For temperatures as low as -200°C (-328°F), use a wire wound RTD
3. Best practice is to use 4-wire and Class A RTDs
4. Make sure the sensors are temperature cycled and "aged" for long term stability
5. When applying RTDs below 0° and above 600°C, you want to know the process conditions in order to optimize the build: Temperature range, cycling, pressure, flow, media, vibration and surrounding environmental conditions (chemicals/atmosphere)
6. When highest accuracy is needed, use sensor trimming.
7. If using 3-wire RTDs with long wire runs, and you cannot convert over to 4-wire RTDs, replace the 3-wire RTDs with 1000Ω Platinum RTDs
8. If monitoring temperatures above 850°C (1562°F), use thermocouples
9. If using thermocouples, use premium grade thermocouples and extension wire
10. If using long thermocouple extension wire, be sure it is noise protected
11. Replace contaminated TC extension wire with remote I/O



By **[deleted]**  
[cheatography.com/deleted-2754/](https://cheatography.com/deleted-2754/)

Not published yet.  
Last updated 28th January, 2019.  
Page 1 of 1.

Sponsored by **ApolloPad.com**  
Everyone has a novel in them. Finish Yours!  
<https://apollopad.com>