

Blog Post

Ghostwriter: Debby Wadsworth
Integrated Marketing Manager
Debby.wadsworth@emerson.com

SME: Ashleigh Hayes, Marketing Engineer (Product Manager)

Blogger: Jim Cahill, Chief Blogger, Editor

URL: <https://www.controleng.com/articles/temperature-sensors-make-the-right-choice-rtd-vs-tc/>



RTD and Thermocouple Selection Considerations

by Jim Cahill | Jul 8, 2013 | Measurement Instrumentation, Temperature



Jim Cahill
Chief Blogger, Social Marketing Leader



Instrumentation professionals have many choices in technology when it comes to measuring pressure, temperature, level, and flow. Over time, experience teaches which technologies work best for which applications.

Two of the most common temperature measurement devices are resistance temperature detectors (RTDs) and thermocouples (TCs). The technology behind them is different, each having its own benefits that drive appropriate selection.

Normally, RTDs are much more repeatable and have better sensitivity than TCs. Long-term drift of an RTD is predictable, while a TC drift is often erratic. This provides the benefit of less frequent calibration and therefore lower cost of ownership. Finally, RTDs provide excellent linearity. When coupled with the linearization performed in a quality transmitter, a precision of about 0.1 °C is possible, which is much better than what is possible with a TC.

To read the complete RTD vs. Thermocouple article go to
<https://www.controleng.com/articles/temperature-sensors-make-the-right-choice-rtd-vs-tc/>