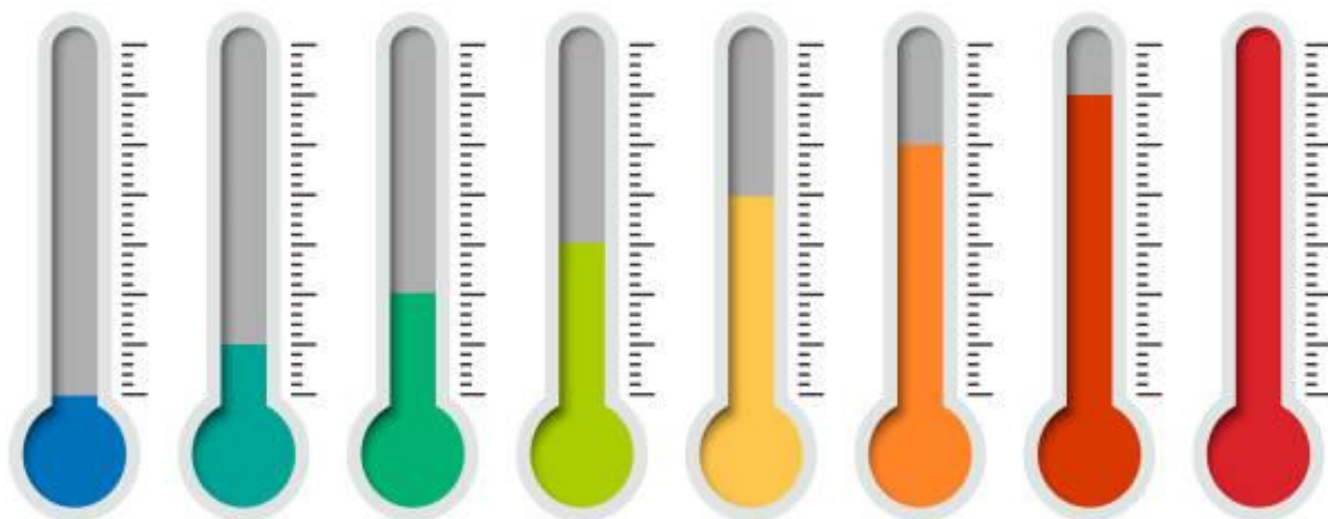




Fundamentals of Industrial Measurement Technology

Temperature Measurement



ProDSP Post Series Nr.13.



Which Sensor Should You Choose?

- a) Thermocouple (TC)
- b) RTD
- c) NTC/PTC
- d) Optical Measurement





Thermocouple (TC)

- Measures the voltage generated at the junction of two metals.
- Very accurate, wide measurement range, but requires special wiring and instrumentation.
- Types are not mutually compatible.





RTD

- Resistance-based measurement.
- Supported by many digital multimeters.
- Cheaper, but more noise-sensitive and less flexible.





NTC/PTC

- The most cost-effective temperature sensor.
- Limited measurement range (–50...150°C).





Optical Measurement

- Major advantage: non-contact operation.
- Wide measurement range.
- Relatively expensive.





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