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- IDAC generates the sensor excitation and the reference voltage.
- Noise and drift of the Ref voltage are correlated and therefore canceled.
- Voltage drop across the line resistance are compensated.
- Allows complete utilization of the input range, no offset caused by the RTD itself.

Disadvantage: 2- 3- 4-Wire RTD Measurement - Texas Instruments The circuit shown in Figure 1 is a completely isolated 4-channel temperature measurement circuit optimized for performance, input flexibility, robustness, and low cost. It supports all types of thermocouples with cold junction compensation and any type of RTD (resistance temperature detector) with resistances up to 4 k Ω for 2-, 3-, or 4-wire connections. CN0287 Circuit Note | Analog Devices Since temperature measurement using RTD is based on resistance, the resistance in the lead wires and connectors must be taken into account when calculating the overall resistance in the system circuit. Using a 3-wire circuit design allows lead wire resistance to be factored out of the overall calculation. Full user guide available here.

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