

Optimization Checklist

- RTD**
 - Check insulation resistance 50 VDC > 200 megohms at 20°C
 - Check ice point resistance 100 ±0.12 ohms or ±0.06 ohms
 - RTD and transmitter matching
 - Frequency of checks – process dictates the intervals

- Connection head**
 - Wire insulation
 - Shielding
 - General condition, corrosion, discoloration, threads, cracks
 - Corrosion on terminal connections
 - Water inside the connection head
 - Conduit seal for hazardous atmospheres

- Transmitter**
 - Wires connected securely
 - Check output at zero and span

- Environmental considerations**
 - Fan blowing on sensor location – can be bad
 - Insulation covering the external portions of sensor - good
 - Sunlight - solar heating right where you don't want it
 - Wash down

- Thermowell**
 - Bore cleaning
 - Heat transfer compound
 - Product buildup on wetted portion
 - Cracks in flange weld or leaky gasket
 - RTD bottoms in well and spring loads

- Controller**
 - RTD temperature coefficient is set correctly in controller
 - 3 or 4 wire circuit connected correctly with correct wire type

Replacement Checklist

- RTD
 - Choose the correct temperature coefficient. Most common is a .00385 conforming to IEC 60751 or ASTM E1137
 - Interchangeability – choose class A for better accuracy
 - 3 or 4 wire – 4 wire provides better accuracy
 - Choose correct length to match thermowell or provide significant immersion to avoid stem conduction – for a direct immersion probe minimum immersion = 10x probe diameter + sensitive length

- Thermowell selection
 - Corrosion
 - Erosion
 - Wake frequency and strength
 - Time response
 - Immersion length

- Connection head
 - Ease of probe removal for calibration
 - High quality terminal block
 - Wash down
 - Add an epoxy coating or other corrosion preventive coating
 - Hazardous atmospheres

- Transmitter
 - Mount RTD with transmitter to minimize lead length for 3 wire circuits
 - Matching to RTD

- Environmental
 - Sunlight
 - Water
 - Forklift proof