

Combating RTD failure due to strong vibrations

Endress+Hauser's iTherm StrongSens sensor cuts replacement costs and improves safety.

Processes with high vibrations caused by pumps, compressors and turbines, for example, can often lead to premature failure of temperature sensors and increased operational costs as sensors need to be replaced more frequently. More worryingly, unreliable temperature monitoring on rotating parts (such as bearings) can lead to a safety risk through overheating of equipment.

Conventional thin film RTD inserts traditionally house a measuring element embedded in a ceramic powder. This typically provides vibration resistance up to 3g across a frequency range of 10Hz to 500Hz – the required tolerance detailed within IEC 60751.

Unlike conventional thin film RTDs, Endress+Hauser's robust iTherm StrongSens RTDs are sealed in a special ceramic potting compound that ensures the filling is free from voids or gaps. This results in significant improvements to mechanical stability and increased vibration resistance up to 60g: 20 times that of a normal RTD.

This increased resistance to the effects of vibration leads to reduced failure rates of temperature sensors and in turn a reduction in plant downtime and the cost of instrument repairs as well as increased plant safety.

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