

Over temperature alarm for motor bearings

APPLICATION A174

Type of Company: Public Utility

Location: Florida

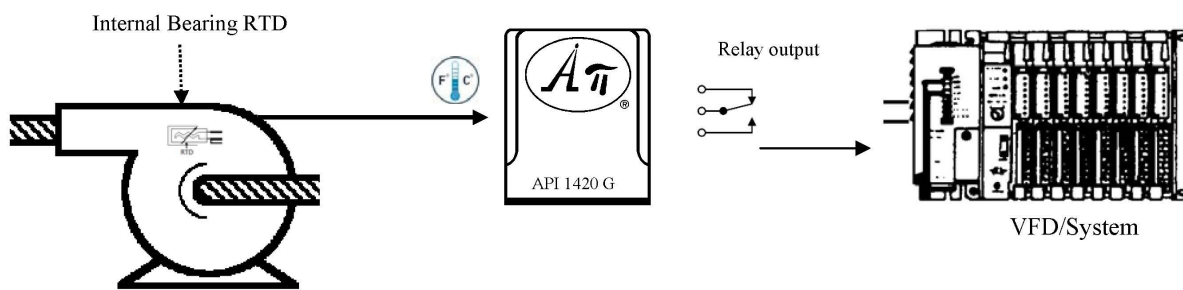
The customer is supplying potable water to a municipality. Potable water (drinking water) is water safe enough to be consumed by humans or used with low risk of immediate or long-term harm.

The customer uses a variable frequency drive (VFD) to control the pumps in order to maintain the proper water pressure in the pipes. Any system setup must be easy to repair/replace in the field.



The Engineering Issue

- The company wants to monitor the bearing temperature using the internal RTD attached to the pump's motor bearings.
- If the bearing temperature exceeds the manufacturers safe limits, they want to alarm the VFD/system so pump speed can be decreased in case of an over temperature warning. If at that point temperatures continue to rise, the VFD/system must be shut down, as this indicates a lack of bearing lubrication or failure, and maintenance notified.



The engineer used an API 1420 G to monitor the internal RTD attached to the pump motor bearings. The API 1420 G has “failsafe” relay operation, is easy to replace in the field, and it has two independent set-points – one for the initial over temperature warning (HI) and the second for the pump shutdown (HI/HI).

Problem. Solved.

