Over temperature alarm for motor operation

APPLICATION A186

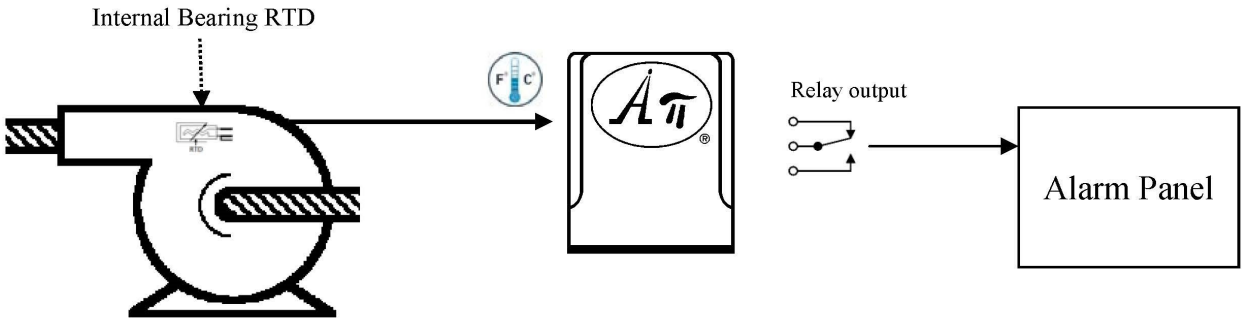
Type of Company: Public Utility

Location: Ohio

Sewage comes from residences, institutions, hospitals, and commercial and industrial establishments. At one point in the sewage treatment process, wastewater is treated by aerobic bacteria. Wastewater flows to air-through-water aeration tanks. The tank aeration system is a fine bubble diffusion system consisting of an air mixing manifold system in the bottom of the tank. Blower nozzles force heated air into the water, creating a turbulent mixing action and the perfect environment for bacterial action. As you can imagine, continuous operation is critical for sewage treatment plants!

The Engineering Issue

- Should a blower motor shut down, it is vital the operators/technicians be notified to resolve the problem and get the system back up and running as quickly as possible
- Since the blower motors are critical to the process, there must be two inputs to the alarm panel – one to notify them about overheating and the other to tell them that the motor has shut down.



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

Problem. Solved.

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