

Steam Trap Condensate Monitor

Applications:

- Steam Trap Condensate Monitor
- Steam Trap Condensate Flow Switch
- Steam Trap Condensate Flow/No Flow Switch
- Liquid Flow Switch
- Liquid Flow/No Flow Switch

Application Background:

Typical Steam Systems will have many steam traps to remove the condensate during operation. Flow monitors are simply flow switches installed in the process piping at the outlet of each trap. These flow monitors can distinguish between a flow and no flow condition at the outlet pipe. If there is a steam trap failure (ex. stuck float ball or valve), the flow switch monitor would indicate a lack of flow and provide an alarm relay contact to alert the failure.

Application Solution:

There are many liquid flow monitoring technologies including: site glasses, paddle/flapper types, turbine, capacitance, vibrating forks, ultrasonic, and conductance probes. All have proven to work with varying degrees of success. Some rely on operator's time and attention, while some have mechanical parts and are prone to wear, hang-up, and failure. Still other electronic type probes require conductive fluids or fluids of specific capacitance.

A better solution for liquid flow detection at a specific point in a process line is the Thermal Differential Switch. The TD switch has two thermal sensing devices (RTD's) encased in stainless steel tips. One sensor detects the temperature of the liquid while the second has a small current applied to create a thermal differential above the fluid temperature. The differential temperature between a fluid flowing and not flowing is different. Therefore the detection of flow at the sensor probe is a simple, reliable technique for a point flow monitor.

With a single process connection into a pipe line either through a MNPT or flange fitting, a TD probe can be strategically located to monitor for flow of the liquid process fluid. When the probe detects the fluid, the TD switch activates a relay output to confirm that flow is occurring. Likewise, when there is a no flow condition the TD switch can activate a relay for that condition as well.

Any of the Delta M Corporation microtuf® and Versa-Switch® flow switch product models can provide the solution in this application. The dual channel Versa-Switch® has the added feature of a second relay contact for a Failure Alarm (FA) option to watchdog the unit for power failure or interrupt, sensor failure, electronics failure, etc. This combination provides for the best security and assurance that the point flow switch is ready at all times to provide for the flow confirmation.

See the products section to select your model and configuration to meet your specific needs.