

## Economical SIL-2 Rated Flow Switch Protects Pricy Pumps From Dry Running Conditions That Shorten Their Lives

*Also ideal for monitoring cooling water/heat exchangers, drain lines, safety spray nozzles, relief valves, oil spray testing*

**San Marcos, CA** — Engineers responsible for optimizing the up time of process flow networks in demanding industries will find the [FLT93 Series flow switch](#) from [Fluid Components International](#) (FCI) provides a reliable early warning alert to the potential of dry running conditions, cavitation, and other pump issues that can lead to emergency shutdowns, service interruptions and unplanned costly maintenance.

Many industries, such as chemical, electric power generation, food/beverage, oil/gas, pharmaceuticals, petrochemicals and water/wastewater treatment plants, depend on pumps to move process fluids and keep cooling systems up and running. Pumps are expensive to operate and costly to maintain – especially when dry running conditions suddenly occur due to system variable demand, leaks, clogs or other problems that could affect a pump's seals or bearings. The resulting damage can require expensive, time-consuming repairs, overhauls or replacement at an even higher cost.

FCI's dual alarm FLT93 Series flow switch reliably monitors the flow and temperature of liquids, gases, slurries and more. It is ideal for pump wet/dry detection, where sudden, unexpected reductions in media flow rates can leave pumps vulnerable to over-heating conditions that shutdown process lines and require trouble-shooting, fixes and more. This SIL 2 rated instrument is designed for heavy-duty, hazardous process industry environments and comes with a comprehensive list of global safety approvals.

The FLT93 switch, with its no moving parts design, offers a highly robust scheme for pump protection with its dual alarm capability. With Alarm 1, the switch will detect a low flow situation anywhere between 0.01 feet to 3 feet per second FPS [0,003 meters to 0,9 meters per second MPS]. This low flow alarm can be regarded as a pre-warning signal for the control system or operator. The system or operator can then decide to keep the pump running or to shut it down.

If an Alarm 2 occurs because the feed line to the pump is running dry, this condition would be an emergency signal to shut down the pump immediately because the bearings now see gas instead of a liquid as a heat transfer media. In such situations, the temperature of the bearings may rise very fast.



Using a flow switch prevents permanent damage to the pump's bearings that will require an overhaul of the pump before more damage occurs.

The sophisticated FLT93 switch is a dual-function instrument that indicates both flow and temperature, and/or level sensing in a single device. Dual 6A relay outputs are standard and are assignable to flow, level or temperature. The FLT93 switch can be specified in either insertion or in-line styles for pipe or tube installation.

Designed for demanding heavy-duty processes, FLT93 switch is hydrostatically proof pressure tested to 3500 psig [240 bar (g)] at 70 °F [21 °C]. De-rated with temperature, the maximum operation service recommended is 2350 psig [162 bar (g)] at 500 °F [260 °C]. Higher ratings are available with special construction and test certification. Agency approvals include: FM, ATEX, CSA, CRN, and CE.

Highly dependable, FCI's versatile FLT93 switches are ideal for applications in many demanding hazardous process industries. They also used extensively with or without SIL 2 certification in a wide variety of applications in the food/beverage, mining/milling, pulp/paper, pharmaceutical, water/wastewater treatment and more.

FCI is the only thermal manufacturer providing built-in temperature compensation to ensure set point accuracy for process temperatures that vary up to  $\pm 100$  °F. The FLT93 is easily field-configured, providing unparalleled flexibility, accuracy and stability for all multiple process sensing and switching requirements.

Fluid Components International is a global company committed to meeting the needs of its customers through innovative solutions for the most challenging requirements for sensing, and measuring flow, pressure and temperature of gases.