

Large Scale Water Chillers Keep Their Cool With Multi-Function FLT93S Flow Switches

Accurate Flow, Level & Temperature Measurement in a Single Device

San Marcos, CA — Water engineers, technicians and contractors responsible for large scale chilled water systems providing refrigerated water will find the dependable dual-alarm [FLT93S Series Flow Switch](#) from [Fluid Components International \(FCI\)](#) provides exceptional system monitoring, alarming and switching to keep their cooled water flowing while avoiding equipment damage and system downtime.



These large chilled water systems are frequently found in district energy systems. They provide building owners with centralized cooling, and heating too, which serves city business districts, medical and corporate campuses, universities or convention centers by providing more economical, climate-friendly heating, ventilation and air conditioning (HVAC).

No matter the type of district energy plant, FCI's FLT93S Flow Switch provides liquid flow, level and/or temperature monitoring and switching as the chilled or hot water passes from the plant through a network of pipes to the district's buildings. Once the energy transfer of cooled or heated water occurs at each building, any remaining water flows back to the plant for re-use.

FCI's dual alarm FLT93S Flow Switch Series reliably monitors the flow and temperature of liquids, gases, slurries and more. These flow switches are valuable where unexpected reductions in liquid or other media flow rates leave chillers, pumps and other types of equipment, which are sensitive to dry running conditions, ready to grind to a halt, which can result in process shutdowns that require trouble-shooting, extensive repairs or even equipment replacement.

When an Alarm 1 occurs, the FLT93S Switch has detected a liquid low flow situation anywhere between 0.003 to 0.9 meters per second (0.01 and 3 feet per second). The Alarm 1 low flow alarm can be regarded as a pre-warning signal for the control system or the operator. The system or operator can then decide to keep the water refrigeration system running or decide to shut it down for inspection and potential repair.

If an Alarm 2 occurs because the water feed line is either running below the minimum required liquid flow rate or actually running dry, this condition is an emergency signal to shut down the refrigeration system immediately. In these situations, equipment damage can occur very quickly. Using a flow switch

prevents serious or permanent damage to the equipment that will then definitely require costly repairs or even replacement.

The advanced FLT93S Flow 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 FLT93S Switch can be specified in either insertion or inline styles for pipe or tube installation.

FCI flow switches are electronic flow switches that apply thermal dispersion flow measurement technology to provide highly accurate and repeatable flow rate to achieve highly reliable and repeatable setpoint detection. When the flow rate is above (high flow) or below (low flow) the user defined setpoint, electronic flow switches trigger an output signal, typically a relay or transistor, to change state.

FCI is the only thermal flow switch manufacturer providing sensor temperature compensation to ensure set point accuracy for process temperatures that vary up to $\pm 100^{\circ}\text{F}$. The FLT93S Flow Switch is easily field-configured or factory preset, providing unparalleled flexibility, accuracy and stability for all multiple process sensing and switching requirements.

The rugged FLT93S 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. Approvals available include: SIL, SIL2, FM/FMc, ATEX, CSA, CRN, CE, EAC/TR CU, EQM/ECAS, IECEx and Inmetro.

Highly dependable, FCI's versatile FLT93S Switches are ideal for applications in many demanding hazardous process industries. They also used extensively with or without SIL2 certification in a wide variety of applications in the food/beverage, mining/milling, pulp/paper, pharmaceutical, water/wastewater treatment and more.

Featuring an all-welded, no-moving parts design, the FLT93S Switches require virtually no maintenance. There is nothing to break, clog or foul requiring continuous maintenance. They are available in various materials: 316L stainless steel, Hastelloy or exotic materials. In addition, these switches offer an exceptionally long life and a low lifecycle cost for superior value.

FCI solves flow and level measurement applications with advanced thermal dispersion technologies. With 50+ years' experience and the largest installed base of thermal flow meters, flow switches and level switches, count on FCI to know your application and have the solutions.