



Cross Helps Data Center Reduce Risk and Improve Efficiency with Flexim Ultrasonic Flow Meters

When a DC area data center brought in Cross to look at a level measuring application, they didn't realize they would also get a solution for their flow measurement issues. If you are familiar with data centers, you'll know that they are quite secretive and generally do not allow anyone external into their facility for security reasons. As a result, they hadn't had an expert to evaluate their process measurement equipment.

When an expert from Cross Process Solutions came in to help with their level measurement application, he began asking questions about the rest of their process and discovered that they were experiencing challenges with their flow meters. The facility used triple redundancy flow meters on their chilled water lines to ensure the proper amount of water was flowing through the system to cool their equipment. In one location, the three meters in place were giving significantly different readings. Respectively, they were reading ~750 gallons/minute, ~950 gallons/minute, and ~1150 gallons/minute. The facility was using the average of these readings to control their chiller. To further complicate matters, if one of the meters completely failed, their system didn't have logic in place to omit the zero reading. Instead, it would bring down the entire average and cause the chillers to run excessively.



Cross brought in a 100% non-intrusive Flexim ultrasonic flow meter and installed it at the same location where the three meters were giving dramatically different results. They discovered that the actual flow at that location was 1450 gallons per minute, significantly more than is needed. They immediately replaced their other meters with the Flexim meters and were pleased that they all measured within just a few gallons per minute of each other. By making this change, they were able to save several thousands of dollars per month in wasted energy costs. Having accurate flow readings helped the data center to use only the exact amount of chilled water needed to keep their system operating safely and efficiently.

In addition, the meters they were using before were turbine meters while Flexim's meters are ultrasonic. This means that they can be installed without putting any unnecessary holes into the pipes, eliminating the risk of leaks which is critical inside a data center. The ultrasonic meters we use also have several unique design features not offered in other meters. Because of these features, Flexim meters require significantly less maintenance. This makes them less expensive to operate, they reduce the risk of downtime due to failure and can be easily accessed without interruption of the process.

The team at Cross was also able to help this data center by replacing their in-line RTD's with surface-mount RTD's from Flexim. The customer was initially concerned that the surface mount RTD's wouldn't be able to register changes in temperature as quickly as the insertion model or as accurately. However, after testing in a variety of locations and climates, they discovered that the surface mount RTD's not only responded within just a second of the insertion RTD's but also tracked them flawlessly. The RTD's used by Flexim are better than Class A and matched to each other. By switching to surface mounted RTD's, the data center eliminated additional opportunities for leaks, further reducing their risk.

After this project, Cross worked directly with Flexim to design a meter specifically for the data center market. These new meters are able to take up to two flow measurements and four temperature measurements with one device giving customers the necessary redundancy in a single product. This single, reliable device provides several necessary redundancy points.

The data center that Cross helped with this application owns and operates hundreds of data centers around the world. They were so pleased with the new meters from Flexim that they have started implementing these measurement devices into each retrofit and new facility acquisition. In addition, they are now starting to specify the devices into some of their new construction projects. The data center operator is standardizing on Cross/Flexim because they can count on the accuracy of the measurement data while also reducing their risk of failure and improving the efficiency of their facilities.

If you are interested in learning more about how Cross can help you data center operate more efficiently contact our team of process measurement experts today!



About Cross Company

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