Datalogging Feature Locates Bottling Plant Malfunction

It is the middle of the day and the bottling plant is bustling with activity.

All of a sudden there is a malfunction on the line. The bottling machine is improperly capping bottles. The line supervisor makes a quick adjustment, and the machine resumes operation.

A short time later, however, a similar problem occurs again, on the same line and he cannot fix it this time.

"Call the maintenance technician, and get him up here right now!" he calls out.

In you walk, uncapped bottles are starting to stack up in large numbers at the end of the bottling line. The line employees are all standing around and staring at you wondering if you can fix the problem right away.

The company has been hampered by these intermittent interruptions on this line and it's caused a great deal of frustration. Up until now you've been unable to determine where the problem originated.

The line supervisor complains each time his people are standing around waiting for the line to come back up. "Time is money" he states. "Let's get this line fixed!"

You attempt to identify the source of the malfunction with a digital multimeter, moving test probes from point to point in the control panel to capture abnormal values.

Meanwhile, the bottling line supervisor is pacing back and forth. All the test points read normal. That's the difficulty with intermittent malfunctions. Test points are seldom abnormal when you are there to monitor them.

Find out what this plant technician did to get his line back up and running again.

Advanced features allow technician to efficiently resolve malfunction

You determine the cause of the capping problem was a temporary loss of a control signal running the capping machine. You fix that and now operators can start re-capping the uncapped bottles. You are back in business — for now.

Everything is functioning correctly and you restart the line. People are back to work and the line supervisor is happy again. Now you are charged with finding out what really happened to cause this brief malfunction. This time you return with your **Fluke 189**.

You hook up your Fluke 189 to a key signal in the control panel for the capping machine, using your **AC220 SureGrip™ Alligator Clips**. The unique data logging feature on the Fluke 189 allows you to quickly detect irregularities, saving the company money because you do not have to stay there the entire time monitoring the machine.

If the malfunction occurs again, you can review the recorded data and precisely identify the problem and track when it occurred. You are free to check other equipment while the 189 uses its internal memory to perform stand-alone logging of measurement changes. Troubleshooting occurs without you waiting there for the problem to show itself.

Though optimal for production, working conditions do not necessarily accommodate troubleshooting and repairs. No problem. Aided by the 189 multiple reading display with bargraph and two-level backlight to accurately view readings, you can perform your monitoring tasks in the most unfavorable conditions.

A computer is not available, but you can still read data by using the 189 View Memory Switch position. Just cycle through all the logged readings stored in the internal memory, which accommodates up to 995 readings over 72 hours at 15-minute intervals. Review recorded readings without ever connecting to a PC.

In View Memory, you are able to see average values taken during the monitoring process. You later discover that some of the stored readings look unusual. You learn that something abnormal has occurred in the capping machine control circuitry. Still, you need to conduct more analysis to fully account for what happened.

A comprehensive study of your machine leads you to **FlukeView Forms**. This software allows you to create custom reports and to systematically document the precise failure. View trends and problem points so you can more efficiently detect and resolve malfunctions.

This large volume of data reveals that the capping machines main supply voltage dropped to zero. You discover that the voltage was missing for nearly 30 seconds, which is about how long the capping machine ceased capping bottles.

Now that you know there was a loss of a key control voltage from observing the logged readings and the more detailed information provided by the FlukeView Forms software, you start troubleshooting the control voltage signal path. You are looking for a potential cause of the loss of the voltage.

You discover that the malfunction was caused by a micro switch in the capping machine control circuitry that was intermittently sticking. You replace the micro switch.

Problem solved and the bottling plant is up and running.