FLUKE®

Use Study

Industrial applications

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*"What would I use a wireless measurement system for?"*

## Clean, safe measurements

In our case there are a number of things a Fluke wireless system would be useful for:

Using two voltage wireless modules, connect one to a boiler feed water valve controller output to the feed water valve positioner, and connect the second voltage module to the feed water valves feedback to the controller. Now you can monitor the feed water valve command and its position feedback signal at the same time when calibrating the feed water valve positioner. The remote reading means you can connect these modules at the controller and have the display at the valve where you would make the adjustments.

Using two voltage wireless modules, connect one to a boiler force draft fan damper command and the second voltage module to the minimum airflow switch. Now you can find the minimum damper position to meet the minimum airflow without having to be on top of the boiler, a ladder, or a lift.

The system has great advantages in dirty areas. Instead of running equipment with the panel open, hang the module on the panel, close it, and run the equipment at a safe distance while it is going through start up or procedures, so the control or junction box doesn't get filled with contaminants. For example, a coal fired power plant where there is soot around the equipment, a plating process, or any wet locations. You can use a mixture of modules to monitor the status of the equipment by connecting them to the circuit, closing the cover, resealing it from the environment.

A lot of times there are intermittent issues. To troubleshoot them you would put the module on the panel, and if it's within 20 meters, take the DMM to the shop and monitor it as it goes through the operations. Let's say in a manufacturing plant there is a robotic arm that has an intermittent fault. You can't connect a standard meter to it and let it operate because it will be moving about and can hit you. With the Fluke system you could monitor multiple readings by attaching the modules to the arm and stand a safe distance from its movements.

It would also work well for safely monitoring multiple voltage readings. Attach the modules while the equipment is off, close it, energize it, and watch it as it runs. You can monitor all three phases remotely and simultaneously and you don't need to worry about arc flash or wearing protective gear. Let's say you have a 408 vac 200 HP motor wye-delta start. I can disconnect power and open the motor control center (MCC) cabinet without needing personal protective equipment (PPE). Then connect three hard jaw clamp amp modules—one per phase—to measure three-phase current. Or, connect three voltage modules or a combination of them. Close the MCC cabinet, re-apply power and start the motor. Now I can take all the measurements without needing PPE.

### The Fluke wireless system

One central meter that receives wireless voltage, amperage and temperature readings from multiple sister meters placed in a variety of locations up to 20 meters away.