



FLUKE®

Use Study

Electrical applications

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“The Fluke wireless system modules could be connected to potentially dangerous voltage, safely guarded behind closed panel doors, and easily monitored wirelessly with vastly reduced exposure to hazardous conditions. This is a win win!”

“What would I use a wireless measurement system for?”

It’s like having a virtual second or third man on site at all times

To troubleshoot an intermittent motor overload condition—providing the motor is not faulty—I would connect the wireless voltage module of the Fluke wireless system to the motor starter within the motor control center (MCC), the wireless current module in the field disconnect switch adjacent to the motor, and the temperature module at the motor. I could then verify and view the supply voltage, current, and temperature all on the central multimeter while it was operating. Further evaluation would be required to isolate cause of problem, but one person could narrow the variables down quickly. The modules could be left in place and periodically viewed and logged by one person or multiple personnel within different shifts, and/or modules left in place auto logging data and downloaded later for review.

To commission an air handler unit, you would connect the voltage module to the supply fan overcurrent protective device, the current module to the supply fan “T” leads at the variable frequency drive (VFD), and secure the temperature module in the discharge air plenum or adjacent to the discharge air sensor. Multiple operation parameters could be simultaneously verified, simplifying calibrating the 0-10 V dc analog input signal from the discharge air sensor to the VFD for supply fan speed reference.

And, to troubleshoot a sporadic extruder barrel heater zone where multiple control enclosures are located on different floors of a three-level platform, you would connect the voltage module to the silicon controlled rectifier (SCR) for the suspect zone, the current module to the heater load conductors, and the temperature module to the barrel zone heater. Since measurements could be obtained at any level of the platform, one person, instead of two or three, could collect them.

The personal protective equipment (PPE) required by modern safety standards, while important, inherently add risk through loss of dexterity and color impairment from the yellow shield, which requires a flashlight to distinguish between blue and green “conductors.” And while power should always be de-energized with lock-out/tag-out provisions, it’s not always permissible. The Fluke wireless system modules could be connected to potentially dangerous voltage, safely guarded behind closed panel doors, and easily monitored wirelessly with vastly reduced exposure to hazardous conditions. This is a win win!

Basic voltage, current, and temperature wireless modules cover many testing and troubleshooting scenarios, and imagine the possibilities of additional modules such as thermal imaging, video, or programmable camera to capture potential future electrical failures and hazards. The Fluke wireless system would enable one person to perform multiple tasks safely with modules placed in separate enclosures and readings obtained anywhere in the general vicinity. It’s like having a virtual second or third man on site at all times.

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.

