



How and why to perform a panel study with wireless tools

Panel studies happen when moves and changes happen, which is pretty often.

Office cubes get rearranged, or a manufacturing area inside a plant is relocated. Such shifts can trigger a panel study, a process intended to verify that the new space has a power source with sufficient current capacity to accommodate new equipment—new loads.

Panel studies are short-term variations of load studies, which by code (National Electric Code, or NEC) analyze current levels over a 30-day period. Panel studies typically last a day, sometimes more. They evaluate the existing capacity of electrical panels to determine if they can meet the current requirements of machinery and equipment being introduced into the space.

An efficient method for conducting a panel study uses wirelessly interconnected measuring tools equipped with a logging function. An example: the [Fluke 3000 FC Industrial System](#), one of many Bluetooth-equipped test and measurement tools that transmit data to the Fluke Connect™ app on IOS or Android phones.

How it works:

1. Wearing personal protection equipment (PPE), open and inspect the electrical panel. Panel nomenclature should identify the panel's amperage capacity. If it is a 100-amp panel that contains 10 breakers, no more than eight should be in operation. The NEC stipulates that a panel cannot exceed 80 percent of its rated capacity.
2. Deploy as many current modules as you have available, placing a clamp around a wire of each circuit (connected to a breaker) to be measured. A maximum of six signals can be viewed simultaneously on a phone or computer via the Fluke Connect™ app.
3. Initiate measurements and begin logging data for whatever duration has been selected. Battery-powered Fluke modules, when equipped with fresh batteries, are estimated to continuously operate a minimum of 250 hours (10+ days).

When wirelessly connected, a technician can monitor the readings of each module via phone (within 65 feet/20m) or computer. He or she is able to address other tasks while the modules collect and log data. Panels do not need to be reopened and reclosed, so PPE does not need to be repeatedly pulled on and taken off.

The wireless connectivity permits an easier, faster and more efficient way to perform a panel study. A standard clamp meter, for example, provides only an at-that-moment measurement, not continuous readings.

The results will tell a technician whether more capacity needs to be added to an existing panel or if a new panel needs to be added.

Some situations may call for a comprehensive load study and the use of a tool such as the [Fluke 1730/US Three-Phase Energy Logger](#), requiring detailed setup procedures. Panel studies are sufficient for less complex environments and [wireless Fluke current modules](#) make that process efficient and cost-effective.

Source : [Fluke Training Library](#)

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