

PROFESSIONAL REVIEW

Fluke power monitoring helps UPS manager confidently relay data to TV broadcast clients

Name: Rick Fadeley
UPS Manager

Company: Filmwerks
International

Tools: 3540 FC Three-Phase
Power Monitor, Fluke Connect®
Condition Monitoring

Key benefits:

- Real-time alerts and access to three-phase power data
- 24/7 access to equipment performance

On an unseasonably humid September day in Green Bay, Wisconsin, the Filmwerks International crew preps a broadcast stage at Lambeau Field for the professional football game between the teams from Green Bay and Chicago, a heated rivalry that spans nearly 100 years.

While stage assembly and maintenance may put them within close proximity of on-air talent and commentators, Filmwerks' core business is providing backup uninterruptible power supply (UPS) for broadcast compounds that televise professional sporting and entertainment events, including football, wrestling, golf, mixed martial arts, and concerts.

Headquartered in Rocky Point, North Carolina, Filmwerks dispatches a few custom-built UPS broadcast trailers on epic road trips across the country during football season. For these jobs, it's critical that the entire team receives alerts, based on customized measurement thresholds that could reveal possible electrical issues.

They run a UPS system with a 500 kW generator to accommodate their clients that broadcast live professional football games. For their job at Lambeau Field, they hooked up to four 3540 FC Three-Phase Power Monitors with iFlex current probes to keep tabs on voltage, amps, frequency, and total harmonic distortion (THD)

Brief primer on Fluke 3540 FC, Fluke Connect

Compact, rugged, and sophisticated, the 3540 FC assists professionals in monitoring power input and output to their equipment. Teams can stream vital power data to the Fluke Connect Cloud, then access measurement information—displayed in graphs that show baselines and historical data for trending—using the Fluke Connect Mobile App or the desktop interface. From there, technicians and managers can set thresholds for alarms that notify the team whenever measurements, such as voltage or current, are outside the accepted range.



“The next time we have to deploy to this stadium, we know what we’re dealing with.”

How UPS systems are evolving

Rick Fadeley is Filmwerks' UPS manager, charged with alerting clients of notable changes to power before and during events, as well as providing comprehensive reports after the referee blows the final game whistle. The ability to hook up multiple high functioning and mobile 3540 FCs to monitor three-phase input-output, while being connected to the cloud via Fluke Connect, gives Filmwerks and their technologically savvy clients confidence in their power monitoring efforts.

"Traditionally in the live broadcast power business, up until a couple years ago, it was always twin generators for redundancy. So, they weren't even connected to shore power utility at all; they were in isle mode floating these broadcast trucks."

In many ways, Filmwerks pioneers a greener and more reliable approach to providing UPS technology to clients who cannot risk prolonged outages, as there are substantial advertising dollars at stake. They employ a modular design and state-of-the-art battery banks and avoid running generators and burning diesel fuel, which lowers fuel costs for their clients. The effects are a reduction in their carbon footprint and the minimization of excess machine noise. To accomplish this, Filmwerks uses silent UPS systems with battery backup. And a big selling point to clients is their deep knowledge of and ability to remotely monitor power transference.

"Our clients like it that they feel comfortable that everything is going well," Fadeley said. "We also use it for data recording. We get a baseline of what the critical loads are, what to anticipate, how to connect and load our equipment up. It also archives data, and we can go back a week or month later and see how that particular show performed, how particular equipment was consuming power. Again, this is all traveling equipment, and every week or so it's in a different location and at times different electrical loads."

Power monitoring and real-time data

Filmwerks depends upon utility power as the primary power supply to broadcast operations, so Fadeley recognized a pressing need to have real-time power data at the team's fingertips. Filmwerks trailers are equipped with eight custom air conditioning units to sustain a stable room temperature for the battery banks. With access to remote monitoring on his smartphone via the Fluke Connect Mobile App desktop software, Rick can be alerted to any power issue that demands immediate attention.



Captured and addressed a voltage dip

During a different live broadcast, the value of real-time data was revealed as Fadeley’s team, which was connected remotely, saw that the house power voltage had dropped, which automatically transferred their system to generator power. Later on, when they analyzed the data, they discovered that a house breaker had tripped. With Fluke Connect’s automatic timestamping, they were able to record exactly when the power event occurred, how long it took the backup generator to kick on, and gave them unparalleled insight into the performance of their UPS system.

The Filmwerks team reports power data to each client by individual facility so they can note any electrical components that were problematic during their past visits. “Where the Fluke data comes in handy is especially in shore power or utility power where you have no control of. We’re a visitor to this facility. We take what they give us and hope it’s good. If it isn’t, we like to have data to look at after the event, especially if there are problems. The next time we have to deploy to this stadium, we know what we’re dealing with.”

