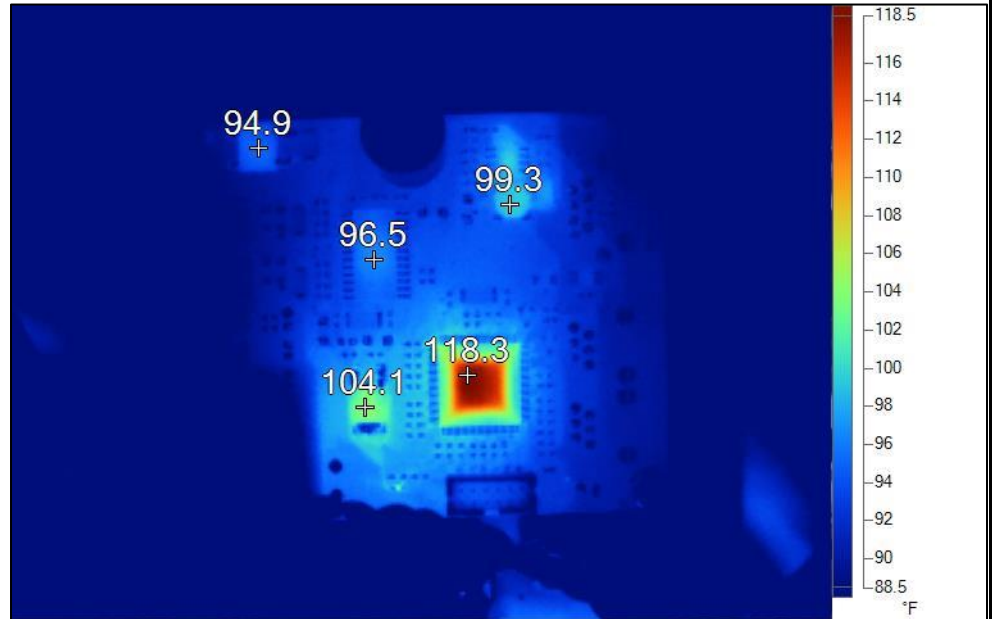## Why Verify Monitoring?

My introduction to monitoring systems in data centers was a lesson in the value of understanding redundant systems and the need to regularly review the monitoring information that is provided.

I was called out to install redundant 30 amp 3 phase circuit feeds from a new distribution center with no circuits in use yet. As a habit I spent some time with the data center operations manager to understand where feeds came from and the available power I could use while maintaining redundancy. He did not have any of that information and neither did anyone else that we had access to while I was out. I asked a question about their UPS location and was taken into an office supply room where two, 100KVA units were buried behind office supplies. Each was loaded to 95% of its rated load. The next hour was spent explaining the following two things:

- First, they did not have a true redundant electrical feed. In the event of a failure they had a total load of 190KVA of load being feed from a 100KVA UPS that would fail on overload in seconds. To be considered redundant and to function appropriately during a failure, the total load can only be as much as a single unit is designed to handle.



- Second, if I installed the circuits they wanted me to they would lose all power to their data center because both UPS units would fail on overload because they each would have more than 100% of their rated load connected.

This Facility was the sole data center for an international accounting firm and the data center operators did not understand redundancy and had never gone back to look at the UPS monitoring to check on the health of their electrical infrastructure. I began to spend time with all my Data center contacts talking about how redundancy works and encouraging them to regularly review any information they had on what their connected loads actually were.

Years later when we started Panoptic Solutions it was very important to me that we include monitoring verification as part of our annual maintenance program. Due to the number of incorrectly reporting monitoring points we have found over the years, we now also verify monitoring accuracy when completing electrical system commissioning.

--Mike Carr
Electrician
Founder, Panoptic Solutions LLC